

## 'DES is conservative and pragmatic'—Pile

by Brian MacArthur

The character of the Department of Education and Science is pragmatic, conservative and evolutionary, not theoretical, futurological and revolutionary, according to Sir William Pile, its most senior civil servant.

His statement was made at a confrontation meeting with the Organisation for Economic Co-operation and Development to discuss an OECD examiners' report on educational planning in the DES (the text of which was published in full in *The Times* on May 9).

Sir William, permanent secretary at the DES, said that three major questions had been raised in the report—whether the attitude of the DES, as exemplified in the 1972 White Paper, was too conservative and failed to give a lead in innovation, why the White Paper was incomplete; and whether the DES was too conservative.

According to the full OECD report, published this week, Sir William said that the British approach to planning was essentially pragmatic, recognising that planners

could not go against the tide of educational feeling.

The DES, he said, saw its planning function as identifying existing trends and then moving ahead, on the basis of these trends, in evolutionary fashion.

This did not, however, render it necessarily conservative. Sir William cited such innovations as middle schools, sixth-form colleges, the Council for National Academic Awards and the Open University.

On the allegedly secretive nature of the DES, the report says: "Sir William agreed that there was perhaps a case for saying that the British system of decision making was very private but argued that planning the allocation of resources was not an operation which lends itself to full and open consultation."

"This was not to say that such planning took place in secrecy, because a very important element in decision making was the amount of time ministers devoted to receiving deputations and in talking to representatives from a wide variety of interests."

A fuller text of the confrontation meeting will be published in *The Times* next week.

## Reprieve for Mr Miller

Mr Terence Miller, director of the Polytechnic of North London, escaped being suspended this week when the court of governors voted instead to set up a special committee to investigate his actions.

In April the governors asked Dr Walter Ross, their chairman, to suspend Mr Miller for "grossly improper behaviour" after he had written to the Secretary of State recommending a further cut in student representation on the polytechnic's academic board.

This proposal went against the level of representation already agreed by the Joint Polytechnic/Lower London Education Authority committee, and the court of governors, both of which Mr Miller is a member.

But Dr Ross did not feel Mr Miller's actions justified for suspension and said he would examine their courses of action and report back.

At the meeting this week it was agreed by 14 votes to six that a committee should be set up. Its terms of reference are to propose measures to ensure that such actions by the director are not taken in future.

Mr Graham Packham, president of the students' union, said the committee was a "whitewash".

## 'Misjudged' Prentice says

continued from page 1

Mr Prentice told *The Times* on Wednesday that although the universities had very severe problems they had assumed too easily that he personally and the Government in general were anti-university, which was not true.

The issue of university salaries had been difficult but the arbitration award would soon be brought for inflation. The 12-month rule in the social contract fund, by and large, been observed rather well.

The basic reason for the sufferings of the universities was inflation. Only when the problem of inflation had been solved would the universities' problems be eased.

Mr Prentice said that his battle for money for education had been largely successful; education had not suffered its full share of the cuts. He had started some work on redistribution, and given some thought to comprehensive education.

Above all, the award from the Houghton committee had started what he hoped was a new and permanent relationship between the salaries of teachers and the other professions.

Professor Maurice Preston, special adviser to Mr Prentice, said: "Since Mr Prentice is no longer at the DES, my present job ceases to exist."

## 'A sad day if no universities'

continued from page 1

he was five, he said, Eton school, then a scholarship to work school. During the war he taught and studied in a part of war camp, then went to Muffield College (for a research scholarship) and St Catherine's, a fellowship.

In Parliament he was a member of the education group of the Labour Party, and for a few years he was a member of the National Union of Students. He had been a school teacher, one during his postgraduate work, and another is due to take him to Nottingham this week.

And universities, "I think would be a sad day if we had no universities, but I don't see many people we ought to have there in the future, because there are more, and I don't see you do either."

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## 20 per cent pay rise gives FE staff £5,000 average

by David Walker

Polytechnic and college lecturers will be earning nearly £5,000 a year on average following this week's 20 per cent rise for further education teachers.

At a Barnham negotiating committee meeting on Monday the Association of Teachers in Technical Institutions accepted the independent arbitration award of 24 per cent for the period May 24, 1974, to March 31, 1975. This represents a 20 per cent increase over the whole year.

The increase, which includes threshold payments and is included in April 1, is an average of widely varying increases in the various teacher grades. The ATTI's declared policy of bettering the position of junior lecturers has, however, not been wholly successful in this round of negotiations.

The ATTI said this week: "The settlement achieved fails to deal with a number of important points in the teachers' panel claim; in particular the merging of lecturers one and two. We will continue to press very strongly for structural demands to be met."

At the annual conference of the ATTI last month, delegates empowered their negotiators to accept a settlement at an average rate of 20 per cent to bring negotiations to a speedy end in case the Government introduced stricter controls on living settlements.

The settlement, which means that the minimum salary for the majority of further education teachers becomes £2,721, represents a basic increase of 14.3 per cent over the scales laid down in the Houghton report and a "consolidation" payment of £230. It is close to the ATTI's claim and has been hailed by the association's leaders as a vindication of their decision to go to independent arbitrators.

The salary of a grade one lecturer rises from £2,121 to £2,721 at the minimum point of the scale, an increase of just over 28 per cent. The ATTI claimed £2,835 for this grade. A principal lecturer will now get a minimum of £3,941, an increase of about 19 per cent.

All salaries over £8,000 will get a flat increase of £1,300, including thresholds. This means the top polytechnic salaries get a 10 per cent increase, taking their salaries close to £14,000 a year.

The package also includes some tinkering with the structure of posts. The top two points of the lecturer scale will now be fully aligned with the bottom of the senior lecturer grade. Lower level academic work will get more recognition in the number of senior posts devoted to it. Part-time teachers' rates will be increased notwithstanding the longer term investigation of their position by a Barnham committee working party.

The settlement this week removes the question of university-polytechnic differentials for it is apparent that even before the university teachers' fight negotiating their cost of living increase, basic rates between comparable jobs are wide apart.

Much depends on the ground of comparison. The arbitration award to university teachers gives a minimum of £2,778 against a further education lecturer grade one getting £2,721. Perhaps a more trustworthy comparison is with the lecturer grade two who will get £3,270. On the latter basis even after the university cost of living increase the difference is slight.

The gap at the head of department and university professor level is more striking. The head of department minimum is nearly 30 per cent below the professorial average. However, university teachers get their award in October, by which time inflation will have nibbled at the differential.

Likewise the "leapfrogging" of negotiations and settlements makes it difficult to say bluntly that pre-negotiation differences have been restored. The difference between the two sectors in the middle ranges of the career structure at senior and principal lecturer levels are unmarked.

The ATTI said this week that it would expect to restore parity at the upper end of the scale in the negotiations for the pay settlement starting from April, 1976.

## Head defeats dons for poly directorship

by David Hencke

The new director of Loughborough Polytechnic is to be Mr Geoffrey Holroyde, headmaster of a progressive state school. Mr Holroyde, who is 46, was chosen in preference to the assistant directors of two large polytechnics and professors from Brunel and the Open University.

Mr Robert Alken, director of Coventry Education Authority, said the governors of the polytechnic picked Mr Holroyde for his floor, personality, capacity for lateral thinking and the leadership he had shown in previous appointments.

Mr Holroyde is currently the head of the Sidney Stringer Community College, a 600-pupil comprehensive school in Coventry which is run on community college lines and used as a community centre at night.

His previous appointments include 10 years in the Royal Navy where he rose to Lieutenant-Commander in the instructor branch and two spells in industry at English Electric and British Leyland. He was principal of the staff training college at English Electric and has been connected with management and apprentice training programmes, including graduate training.

His school was run on a philosophy of co-operation rather than coercion and he abolished corporal punishment.

He sees the polytechnic's future as a challenge and wants it to be closely coupled with the needs of local industry and to become a community centre in Coventry.

He believes in a national role for polytechnics in training graduates for industry and the community. He is also concerned about the empty places in technology courses and wants more emphasis placed on training the technologists who will be required to run British industry in 20 years' time.

## Contents

Amazon women



"Mundurucu women win the battle of the sexes even in their state of subjection". Edith Turner discusses "Women of the Forest" on the first of eight pages of books from University Presses, pages 17-24

## Scottish UGC?

David Walker reports from Edinburgh on a major conference on devolution in education, page 5; leader page 16; Scots UGC "a disaster", page 32

## CNA visitation

Brian MacArthur spends a day with the CNA as it puts a college under the microscope, page 8

## Confrontation

The DES answers OECD examiners' accusation of remoteness and secrecy, page 11

## Open University

Extracts from Professor John Ferguson's book which looks at the OU from inside, page 15

## Education after 16

Lord Alexander proposes a new definition for higher education and suggests the Burnham machinery should be reconstituted, page 14

## Record OU application

Numbers applying to study at the Open University reached the record level of 52,551 this year. When applications closed on Tuesday the total was 14 more than last year's record figure.

Previous yearly totals of applicants were 43,444 in 1970; 35,182 in 1971; 32,046 in 1972; 35,011 in 1973; and 52,537 in 1974.

|                  |        |
|------------------|--------|
| Don's Diary      | 7      |
| Noticeboard      | 10     |
| US news          | 12     |
| Overseas news    | 13     |
| Letters          | 16, 18 |
| Books            | 17-24  |
| Classified index | 25     |

## Colleges of Education continued

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Application forms and further particulars may be obtained from the Academic Registrar, Philip Jones, College of Education, Ayr, KA8 9SR, to whom completed forms should be returned by 27th June, 1975.

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## Manpower planning 'threat to freedom'

The Government is attacking the intellectual freedom of universities by threatening to plan the number and type of students they produce, the Council for Academic Freedom and Democracy says in a statement released today.

It says: "The Government is planning not merely further 'academic' or tertiary education, but, much more seriously, a direct attack on academic freedom within the universities and colleges. It is attempting to achieve a further subordination of post-secondary education to the requirements of the economy."

The council alleges that the recent speeches of Lord Croomer-Hunt, Minister responsible for Higher Education, are part of a growing tendency to make allocation no more than a subsidiary part of the economy. Students should not be forced into areas of study thought to be economically desirable.

"We urge teachers and educational authorities to stand up for a wider, more humane and generous concept of relevance than that of Lord Croomer-Hunt—one which will judge the relevance of a course by reference to the needs of the young people who take it and to the widest needs of society."

The council also urges university authorities and the National Union of Students to resist any attempt to interfere with the principle, enshrined by Lord Robbins in his report, of a free choice by students of the courses they wish to study.

## 90 per cent increase sought for lowest paid clerical workers

A pay claim which could give rises of between 80 and 90 per cent to the lowest paid clerical workers in 44 universities has been submitted by the National and Local Government Officers' Association.

The claim, which would give a flat rate rise of £10 a week for every employee plus 17 per cent, means average increases of about 35 per cent. It is, however, heavily weighted in favour of the lower paid, who, without threshold payments, earn less than £20 a week. For higher paid workers on about £2,750 a year the increase will be below 30 per cent.

The cost of the settlement for NALGO's 10,000 members will be between £6m and £8m. The 21 per cent rise (including threshold) for academics negotiated by the Association of University Teachers is estimated by the AUT in cost between £25m and £27m.

Mr Dave Straker, national organizer of the universities section of NALGO, said the new wage rates would bring an 18-year-old salary from £918 a year without threshold to £2,040 a year.

His members work among the worst paid in the country and had fallen behind for too long, he said. The new wage rates would help to restore their position.

He added that a policy of non-replacement of staff began following the cuts in university spending had reduced clerical staff by 10 per cent. In terms of low pay and advancement, the claim was within the "normal" range.



WAGES STRIKE GETS A DOUBLE TWIST!

very pleased to be told by academics who have had two pay settlements this year that their claim is outside the social contract."

Negotiations between the universities and NALGO have already begun and Mr Straker hopes that a settlement will be reached by mid-July.

Last year NALGO achieved its first national agreement with a consortium of 33 universities. The remaining 11 universities are expected to join the consortium this year. It negotiates for all clerical and finance staff up to the level of middle management. The remodeler of administrative staff are on academically related scales and will have benefited from the AUT settlement.

## Forged degrees land German in court

A German economist is to be prosecuted for holding two forged University of Durham degrees. He could face up to six months imprisonment.

The charges have been brought by the Kulturministerium, Rhineland-Palatinate, and will be heard in Mainz in two weeks' time.

The forged degrees came to light when the man, aged 51, applied under German law to be recognized as a doctor. He has been charged with holding false credentials.

The degree certificates, one in Latin and one in English, are for an honorary Doctor of Letters and a doctorate in Sacred Theology. The English certificate includes a forged signature of the university registrar Mr Ivo Ewen Graham.

The Latin document includes a forged signature of the vice-chancellor, Sir Dominico Christopherson. Another signature is from the Bishop of University, St Peter Bonn, Germany.

Degree mille, page 9

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# 'England replaced as literary leader'

by Frances Gilh

England has been replaced as a centre of linguistic and literary studies by America, Africa and other English-speaking countries, according to Professor George Steiner, professor of English and comparative literature at Geneva University.

Addressing the English Association as president for 1974/75, he said: "So far as literature may be seen as an index of language energy, it finds that a significant portion of the writing being produced in American English, and also in African, Australian, Anglo-Indian and West Indian literatures, displays an inventive élan, an explosive delight in linguistic resources, a sheer scope largely absent from the British scene."

England's situation, where "book-shops, which once carried on the essential tasks of education, are turning into glorified tobacconists," compared unfavourably with the Soviet Union, he said.

The Soviet Union "summed up the twentieth century with a massive burden of solidarity and cultural deprivation, but nowhere else are the serious theatre, the symphony orchestra, the public library and lecture hall so vital a presence in daily life."

English prejudice against the American novel, together with the aspiration for a more serious literature, he said, has been an attempt by Britain to resist new influences and preserve its national status, he said.

Literature and literacy in Britain was also isolated from the mass of the population, he said. "The former elite, with its criterion of access, has helped to create a regime unsurpassed in the arts of

self-recruitment and internal dissemination." This was not the case in France, where "the average man, outside an urban centre, reads few books, and the television is immorally banal, but for a number of social and psychological reasons the less educated Frenchman does feel he has a linguistic/literary stake in society."

But he warned that to attempt at isolation, either from the American or populist world, could bring back the past. Ways had to be found to give an evolving mass of society a stake in literacy, and "to bring to all those who have never known them, some elements at least of the immeasurable strength of the language and of its history and letters."



Dr George Steiner

Responsibility lay with teachers of English, he said. "English teachers, particularly in comprehensive schools, come as close as anyone can to being the architect of a potential consensus of a shared language field in which social disagreements and resentments erupt neither into violence nor into silence."

Britain itself had an obligation to be more responsive to English from outside England and to welcome other literatures and linguistic idioms.

He suggested a more inspired use of the mass media, in promoting of literary ideals. Education in the widest sense may become Britain's principal industry and export. The need to rethink the function of English in the educational process was a most urgent task.

## Demand strains social work training schemes

by Sue Reid

In the past three years 7,425 students have qualified as social workers, more than half the total number qualifying in the previous 13 years. But only four per cent of residential staff and 40 per cent of field social workers are qualified.

This was revealed last week by the Central Council for Education and Training in Social Work, which replaced three former specialist training councils three years ago, in a review of its progress since it was established.

Sir Dorman Christopher, chairman of the council, said it began work at a time of unprecedented expansion in the social services which had made acute the many shortages of qualified people among social workers.

The social services expanded by 15 per cent in 1971-72, 14 per cent in 1972-73 and 12 per cent in 1973-74, he said. Now only a limited percentage of social workers were qualified and many categories had little or no training facilities.

Sir Dorman said the council had been faced with the problem of narrowing the existing training gap but has also had to try to prevent the gap actually widening as the ever-increasing demand for social services forces departments to take on more and more unqualified people," he said.

The CCTSW had concentrated on expanding the basic professional training provision for field social workers in the form of courses leading to the Certificate of Qualification in Social Work. Having inherited a diversity of training courses leading to a multiplicity of awards there was now effectively a single training for professional social work, two years long and leading to one award.

Sir Dorman said the impact the expansion in the output of qualified

social workers, in spite of cutbacks in the extension of social services generally, would be accelerated as the effect of the CCTSW, as the appropriate qualification in residential, day, domiciliary and education services, began to feel.

A series of well-publicized cases of social work clients whom services had failed to protect had intensified criticism of training and revised demands for more specialization. Courses were now being arranged to meet needs for specialized knowledge of students wishing to work in particular areas of social work.

A new form of training was being introduced in a few areas in the autumn for a wide variety of social service staff, but social workers, leading to a Certificate in Social Service, was particularly relevant to staff of residential, day and domiciliary services.

Training would be in several closely related to the needs of the individual concerned and very much practice oriented. By developing links between professional training and training in other areas, help to raise standards for the professional qualification.

The council, financed by Government but working independently, confident its target of 60 per cent expansion in CQSW training plan to 4,000 by 1976-77, will be reached as planned.

Twenty-two short courses have been announced by the CCTSW for 1975-76. Treatment methods, work education and training, and supervision and research are priorities.

The courses are subsidized by government and organized by local educational bodies at the instigation of CCTSW.



Sir Samuel Edwards, left, and Sir Edmund Leach

## Three Cambridge dons knighted

by David Walker

In a Birthday Honours list remarkably bare of academic names, Oxford and Cambridge divided the awards. Knightships went to three prominent Cambridge dons, Professors Brian Pippard, Edmund Leach and Samuel Edwards and to professor Peter Hirsch from Oxford.

Professor Pippard, who has been Cavendish professor of physics since 1971, is known principally for his work on atomic structure. He has advocated major changes in the shape of first degree courses.

Professor Edwards, chairman of the Sciences Research Council, is a physicist specializing in materials science.

Professor Hirsch, like his Cambridge colleagues a fellow of the Royal Society, is Isaac Wolfson professor of psychology at Oxford and his recent research has been on the structure of metals.

Professor Leach, provost of King's College, Cambridge, is a well known anthropologist and gave the Reith Lectures in 1967. He is a fellow of the British Academy.

Outside the university world, Mr Ashley Bramall, leader of the lower

London Education Authority, has also received a knighthood. He is a barrister and former Labour MP.

In the Civil List the major awards to academics included a CBE for Mrs Marie Jahoda, who recently retired from the chair of social psychology at Sussex University. Professor F. G. T. Holliday, who stepped into the breach of acting principal and vice-chancellor of Stirling University after the death of Dr Tom Currie, and Professor Eric Turner of University College London, president of the Union Académique Internationale, are two other university men to receive the CBE.

The list also includes Mr Philip Larkin, the poet, who is librarian of the University of Hull, and Mr F. W. Dole, chairman of the governing body of the Polytechnic of Central London.

Other awards are: CBE: J. C. M. Browne, professor of statistics and agronomy, University of London; P. S. Byers, professor of general practice, Manchester University; T. W. Goodwin, Johnson Professor of biochemistry, Liverpool University; Professor R. S. F. Schilling, director of the

Instituto for Occupational Health at the London School of Hygiene and Tropical Medicine.

OBE: Professor E. J. Cohn, King's College London (for services to English law); I. C. M. Maxwell, deputy director of the Inter-University Council for Higher Education Overseas; A. T. Morrison, secretary, Northern Advisory Council for Further Education and Northern Counties Technical Examination Council; Miss J. D. Shaw, deputy principal, Roehampton; J. P. West-Taylor, registrar, University of York; E. Wilkes, professor of community care and general practice, University of Sheffield.

MBE: Miss M. O. Hudson, principal, Atherton and Tyldesley Adult Education Centres; W. H. B. Thorpe, vice-principal, North Notts College of Further Education; T. Williams, principal, Londonderry College of Technology.

Among the overseas awards the further vice-chancellor of the University of Papua New Guinea has been made knight bachelor in the Australia list. He is Mr John Gunther of Queensland, Australia.

## Student cuts likely next year OU dean warns

by Frances Gilh

The Open University is likely to cut its student intake by 3,000 to 4,000 next year because of financial constraints, Professor John Ferguson, dean and director of studies in arts, said last week.

Professor Ferguson was speaking at the launching of his book, *The Open University from Within*, the third in a series on higher education edited by Professor Roy Niblett.

He said: "When the Department of Education and Science funded us last year for 20,000 students for 1975 and 1976, we miscalculated the total number of students this money would give us this year. To take in 20,000 students again in January, would mean running at a loss which we cannot afford."

This was because students were passing more slowly through the system. Courses were less easy to afford so students took one or two half courses instead of two.

"This is not official policy, but for financial reasons we shall try to take between 16,000 and 17,000 next year," he said.

There have been 52,551 applications this year, which exceeded last year's total by 14.

A spokesman for the university said the level of intake would probably be discussed at a meeting of the planning board on June 19. The OU was faced with a deficit of between £1m and £1.5m for this year, because of inflation and because students were taking longer to go through the system. There were about 49,000 students taking courses in 1975 but the university had expected about 46,000.

Other possible areas for economies are course production levels or general services and administration (about 12 courses are projected a year with the aim of reaching a target of 87 by 1984).

On the OU's teaching methods, Professor Ferguson said that long distance teaching could well be applied elsewhere. "I believe in the lecture, but only two or three lecturers out of 20 in my day at Cambridge were effective. People didn't take the trouble to communicate."

Except where a school or college had an outstanding "communicator", the OU's methods could well be applied, he said. Many students in large faculties did not have any face-to-face teaching anyway.

He hoped the university would develop more inter-faculty courses. The OU system had broken down departmental boundaries, but it was still rather bound by faculties. One major development since he had written his book had been the pilot project for 18-year-olds.

"It is now clear that the pressure for places is off the other universities and I think the project will not in fact be a major consideration. We won't take on 21s unless they are in prison or hospital."

But the OU still had a function to fulfil for 18-year-olds who do not find the traditional system offered what they wanted.

The Open University is undertaking a £37,000 retraining scheme involving more than 2,000 part-time retraining staff in preparation for the changes in a new tuition and counselling system next year.

Students will then be assigned to one person for their foundation course instead of the present system where students are linked to a tutor and a counsellor.

During the first phase of the retraining programme, now under way, the university is consulting part-time teaching staff to obtain comments on the operation of the new system where the tutor and counsellor roles are amalgamated. Extracts from Professor Ferguson's book, p 15.

## News in brief

### OU/college link wins approval

The experimental link between the Open University and Milton Keynes College of Education has been approved by the DES and students at the college can now work for the university's BEd degree with a teaching qualification.

The Department has approved a permanent scheme whereby all six credits for the degree can be taken in three years. A fourth year is available for able students to gain another two credits which will qualify them for an honours degree.

The college moves to new purpose-built buildings next month on the higher education campus of Milton Keynes.

### 180,000 visit museum

Nearly 180,000 people visited Oxford University's Ashmolean Museum during 1973/74. The figures were marginally lower than the previous year.

During the year Friends of the Ashmolean made a number of grants to the museum including £3,000 to the Department of Antiquities and £2,000 towards the purchase of Crusader coins. A further £1,000 was given towards the purchase of the models by Justus Stermann.

A Greek marble head was presented to the museum by Dr John Evans. It had been excavated by Sir Arthur Evans in 1877.

### CNAAP post for Bethel

Mr David Bethel, director of Leicester Polytechnic, has been appointed chairman of the committee for art and design of the Council of National Academic Awards. The committee is successor to the former National Council for Diplomas in Art and Design.

### Statistics fellowships

The Social Science Research Council is to set up two professorial fellowships in statistics and their use in social science at Quslow and Lancaster Universities. The £25,000 endowment will be for two years.

### Change of address

The post graduate awards division of the Social Science Research Council has moved. Its new address will be 1 Temple Avenue, London EC4V 3BH. Telephone 01 354 5252, extension 14113.

## APT challenges Government on parity of salaries

by David Hencke

The Association of Polytechnic Teachers has challenged the Secretary of State for Education to say how polytechnic and university teachers can be achieved by October, 1976, when polytechnic salaries are being linked with those in further education colleges and not universities.

Following the recent arbitration award to university teachers the divergence of polytechnic and university salaries post-Houghton has already begun. It claims this is directly due to the present linking of polytechnics with further education colleges instead of universities.

The APT says the universities' committee has commented unfavourably on the probationary system and on the conditions of service in further education colleges. It adds that the committee is not in favour of comparability being established between polytechnic and further education colleges where there is often a large amount of non-degree teaching.

In a further claim to the Secretary

of State the APT says the polytechnic lecturer scale is being compressed by the further education negotiators. The APT has lodged an objection with the Registry of Friendly Societies against the proposed name of the new college and polytechnic lecturers' union, the Association of Teachers in Colleges and Polytechnics.

The union has been proposed by the Association of Teachers in Colleges and Departments of Education and the Association of Teachers in Technical Institutions and would be the major union in the public sector.

The APT says that both the initials ATCAP and the name could be confused with the Association of Polytechnic Teachers since three of the four initials are used by the APT.

Dr Dennis Elwell, executive secretary of the APT, said: "We believe the union will have a wide choice of initials and could find a new title which would not be confused with our own. We hope a solution can be found quickly."

## Birmingham degree offers French law

Birmingham University is to introduce next year a three year course leading to the honours degree of Bachelor of Laws (Law with French). The degree is expected to open the way to expanding opportunities for legal, commercial and administrative appointments within the European Community. The whole of the third year will be spent at the University of Limoges.

The purpose is to enable those with a level French to extend their proficiency of the language, obtain an introduction to French law, and at the same time qualify for the maximum exemptions in professional examinations of the Bar and the Law Society.

It is a cooperative effort between the faculty of law and the Department of French, which has extensive experience of combining language study with other disciplines. The law faculty has for years placed special emphasis on its teaching and research upon French law, comparative law, and European law.

Another new course, law and politics, will also be introduced in the 1976-77 session. It will consist of approximately equal parts of legal and political studies, and provided that students are chosen in the final year will carry over from Part One of the Bar and Law Society

## Study of libraries for disadvantaged

The Library Advisory Council for England has set up a working party to study library provision for the illiterate and semi-literate, the immigrant community, those disadvantaged by environmental and social deprivation, isolation, mobility, and physical and mental handicap.

The committee, chaired by Mrs Anne Corbett, a freelance journalist, is to make recommendations to the Government.

Details of special library services should be sent to the Secretary, the Library Advisory Council for England, Department of Education and Science, 38 Belgrave Square, London SW1X 8NR.

## Bank gives prizes

Williams & Glyn's Bank Limited are to give £1,500 in EAP prizes over the next three years to Open University students who graduate with first class honours degrees in any of the sciences. The prizes are to be awarded to students who are awarded in any one year.

## Computer delay for Imperial

The Computer Board has told the University of London that it cannot allocate sufficient funds for Imperial College to purchase an ICL 2980 computer, one of the recently announced New Range Systems.

The board, which advises the Department of Education and Science on the purchase of major computer equipment for universities and polytechnics, is still considering whether the university should be allocated funds that would permit the college to instal the smaller ICL 2970 from the same range.

But it has told the university that it could encourage the acquisition of a New Range computer until there is evidence that such a machine can meet the university's needs.

In a letter the board says it has already ordered four New Range systems for other universities, and until some experience has been gained in their operation, it is unable to assess whether they will match up to the particular requirements of other universities.

## Spectrometer study given £126,000

Three Research Workers at Oxford University have been awarded £125,976 for three and a half years by the Science Research Council to develop a new type of spectrometer which, it is claimed, will open up a range of experimental possibilities in chemistry and biochemistry.

Dr R. E. Richards, Dr D. I. Houlton and Dr F. D. Campbell, all members of the university's biochemistry department, have received the grant for the development and construction of a Fourier transform spectrometer to operate at a frequency far higher than any instrument so far constructed.

According to the SRC, such an instrument would ensure that the advanced technology involved in construction of this type of instrument remains in this country, in the production of superconducting magnets of high homogeneity

## Abortion move stirs students

Students are expected to play a major role in the growing campaign against the Abortion Amendment Bill which would severely restrict abortion in Britain.

Ms Sheila Munn, national secretary of the National Union of Students said last week there had been enormous support from universities and colleges asking to send tomorrow's demonstrators to London. The union had received enquiries from a number of education colleges who did not normally join in demonstrations.

At a conference run jointly by the NUS and A Women's Union, the group organising the demonstration in the bill, a number of women spoke of the loss of educational opportunities they have suffered if they have to abort. Our student at Queen Mary College, London University said: "I am a miscarriage allowed to accept a university place. At the time abortions were not available to us under the present law. Ms Sheilman Israel said: "The repeal of this legislation would be a victory for the women's movement."

She also warned that some women, in particular students, could be "do-it-yourself" abortions and would endanger health and lead to prostitution in the long run.

She said that in an ideal world contraception might be available to all since it is not available in many of the universities. Students are now concerned that abortion should be made more available. About 90 per cent of delegates to the NUS April conference in London said they were in favour of the proposed bill.

## German decline fear

University lecturers have become concerned about a fall in interest in German according to Mr Alan Beth, Liberal MP for Berwick-on-Tweed.

In a letter to Mr Ernest Armstrong, former Parliamentary Under-Secretary of State for the Department of Education and Science, Mr Beth says that educational progress in Germany is leading to its decline.

Mr Armstrong, in a reply, says that inspectors are looking carefully at developments and they are attempting to stimulate local initiatives through advice to schools and authorities, and through in-service training.

## Sussex faces 'less money for more students' dilemma

The money Sussex University will have to spend in 1975/76 will be over 4 per cent less than last year in real terms, despite a 6 per cent rise in student numbers.

Professor Asa Briggs, vice-chancellor, warned recently against "fratricidal strife" in discussions on how the money should be allocated.

In its plans for next academic year, Sussex has made provision for salary and wage increases up to 25 per cent but has used all its reserves in hand and halved its "savings" of payments from revenue to capital.

The university will ask the bursar to plan for a 10 per cent saving in fuel and telephone bills. All non-salary costs will get "supplementation" of 45 per cent.

As part of economy measures of the university of Kaut, which faces a deficit next year of £150,000, an internal staff magazine *Fuss* may be closed. A senior lecturer said staff were increased by "thoughtless economies" when spending on other parts of the university could be cut.

In its last issue, a *Fuss* editorial said: "How much does it cost the university in expense and embarrassment accounts and why are such items not made public? What are the salaries of professors and vice-chancellors and why are these kept secret?"

## European teacher trainers form association

A European association for teacher education is to be established following a meeting of college of education principals and lecturers in Strasbourg.

Representatives of five European countries, including the directors of colleges in Strasbourg, Utrecht, Gothenburg, Freiburg, Cologne and Didbury, agreed to establish the association to strengthen links in Europe.

The proposal to establish the association grew from bilateral links established by Didbury with colleges in Strasbourg, Utrecht and Cologne. It also aims to discuss similar problems and to extend bilateral arrangements between Britain and Europe.

The association is also considering providing an opportunity in Strasbourg for student exchanges so that British students can discuss developments with Council of Europe officials.

## Clinical staff claim better NHS pay threatens research

by David Dickson  
Clinical Correspondent

Clinical lecturers at nine London medical schools claim that important research projects are being threatened by pay disparities between staff in the university sector and the National Health Service.

They say that present overtime payments for NHS but not university employed doctors are leading to a decline in academic medicine which will have the short term hinder medical advance, and in the long term threaten the viability of the Health Service itself.

The lecturers are demanding a statement from the Department of Education and Science on its present interpretation of the accepted notion of parity between university and NHS salaries.

The lecturers are demanding back payments from the DES to make up for present disparities from July 1, 1974, the date on which NHS staff became eligible for overtime payments for any work in excess of 80 hours a week.

Dr David Morris, a lecturer in endocrinology at the London Hospital Medical School, said that about 40 per cent of the work carried out by university employed staff in the medical units of teaching hospitals was service work on behalf of the NHS.

Some lecturers spent most of their time on this work, but found themselves working alongside NHS junior doctors on the wards receiving considerably higher salaries.

"This problem is now four years old, and no acceptable solution has been offered by the DES, or the Department of Health and Social Security on whose behalf the work is done," Dr Morris said.

"Its continuation has caused a complete breakdown in the morale of junior academic clinicians, and has caused a decline in the numbers of recruits in their ranks. This threatens the viability of medical academic departments in hospitals, whose work forms the foundation of the growth and advance of medical science in this country."

According to a statement issued this week by the Clinical Lecturers Group, an ad hoc group of lecturers at London medical schools, the present situation contravenes the spirit of the ruling by the Prices and Incomes Board in 1968 that there should be broad parity of remuneration between academic and NHS staff.

The injustice of this situation has been recognized by the University Grants Committee—with whom the profession negotiates on behalf of academic medical staff—and the universities for some time," the statement says.

However, the DES—which provides funds through the UGC—is adamantly refused to rectify this anomaly. In particular, it has rejected any form of retrospective payment for the years of inequality.

The group claims that projects under threat include work on the prevention of heart disease at Hammersmith and London Hospitals.

## Discrimination hits coloured graduates survey shows

Coloured students seeking jobs are discriminated against, even if they have a university degree, and a British education from birth, two researchers at Bristol University have claimed.

Mr Roger Bellard and Ms Bronwen Holden, members of the university's Social Science Research Unit on Ethnic Relations, compared the job-seeking experiences of two groups of students on leaving university. The groups, one white and the other of Asian or West Indian descent, were virtually identical apart from their skin colour.

The project revealed that white students were four times more likely to be offered a job than their coloured counterparts. Of the applications made by white students 28 per cent brought a job offer while the coloured students' applications had a success rate of less than 7 per cent.

Half the coloured students received no job offers at all and only three out of 22 had any choice but to accept the one post they had been offered. However, many of the white students had a choice of choosing from several jobs.

The researchers stressed that the coloured students had excellent qualifications as well as a great familiarity with British society after years of residence in this country. More than two-thirds had arrived in Britain before they were 16, more than a quarter before 12 and a few had been born here.

The survey was cross-checked to discover if different results for the coloured group could have been due to some class of degree, social class of parents or even the age of first entering Britain. None of these factors, say the researchers, made any significant difference.

Mr Bellard and Ms Holden claim university graduates who are employed by a thick coloured students about to graduate should pretend to be white, not make an issue about their identity or highlight their awareness of racial discrimination. But the researchers say that coloured students did not better off by doing this. They should employ without making their face to face. Many had Asian names and others foreign birthplaces which revealed their identity.

The survey concludes that for many of the coloured students the experience of repeated rejection was a depressing and profoundly depressing one. Many had expressed surprise and increasing cynicism about their experiences and some were trying to obtain places on postgraduate courses to postpone finding a job. Others had considered emigrating from Britain.

The researchers said in their report that they know several black graduates, capable of highly paid, high status jobs who had been forced to take semi-skilled employment and they urged that the racism which has been a major barrier to the employment of coloured students should be exposed and challenged.

Journal 1516



## Give FE better air time, Annan told

by Sue Reid

The BBC should allocate more money to further education broadcasting and improve the air time of this service, according to a memorandum from the Further Education Advisory Council to the Annan Committee on the future of broadcasting released this week.

The Council for Educational Technology for the United Kingdom in a similar memorandum to the committee have also asked for air time to be improved with a proportion of peak hours freed for educational broadcasting.

Even a modest increase in the resources allocated to further education would enable new tasks, some urgent and all desirable, to be undertaken in the immediate future, say the Further Education Advisory Council. But it insists that to cover the further education field adequately a much larger expenditure is needed.

The scope of further education broadcasting was almost unlimited, said the council in evidence to the committee under Lord Annan, Provost of University College, London. But it was constrained by financial resources and limited air time with the BBC spending only 1.6 per cent of its annual licence income, £2,200,000 in 1973/74, on further education output.

Equally restricting were the limitations on volume and timing of the air spaces made available in competition with all other broad-

casting demands and requirements. Most television provision was made at weekends or late at night with only BBC 2 providing an early evening service.

The council conceded that in addition a few key places on both channels were allocated for programmes for colleges of further education but added: "It has been said that the audience for further education television programmes must for the most part be highly dedicated or innumerate to devote their weekend mornings and the late evening hours to study."

The position of radio was scarcely more satisfactory. It was essential to provide programmes at times when people might be watching or listening and, in the case of radio, programme availability should be extended to more geographical areas.

If broadcasting in the future was to make an extensive contribution to adult education there was now a case for examining alternative sources of revenue from public funds, said the council. In particular, there should be an improvement in the equipment of colleges of further education and adult education centres to enable them to receive and record broadcasts easily.

More effort was needed to make teachers and group leaders in further education aware of the possibilities of education broadcasts and there should be a diversion of funds

available for research into the evaluation of these broadcasts. Publications accompanying present further education broadcasts were praised in the council's memorandum. They were produced well and the service would be poorer without them.

Also welcomed were the substantial contributions now being made to further education by the BBC's local radio stations. The council hoped any future development of local television would include a similar educational contribution.

Proposals made to the Annan committee by the CET included a call for education broadcasting and education to move closer and a recommendation for an organizational framework for broadcasting. The CET wanted to see that teachers and others involved in adult and informal education had an effective impact on the aims and content of programmes.

It urged the creation of a national educational communications body to coordinate programme making and distribution, funded by the broadcasting organizations and also by its own resources. The CET did not favour an exclusive channel for education but wanted to see some education programmes on every channel, including a proportion in peak hours.

The Schools Broadcasting Council have also submitted their views on the future of broadcasting to the Annan committee.

## '100 NELP' posts to go via concealed measures'

by David Hencke

The North East London Polytechnic is introducing concealed staffing cuts by reducing staff and increasing students, the Barking branch of the Association of Teachers in Technical Institutions says in a memorandum issued to *The Times* this week.

Dr George Brians, the director, dismissed these claims as "a partial view" and "a typical international Socialist ploy". He says he has never seen the document even though it has been put before members of the academic board.

According to the Barking branch, which is one of four ATTI branches represented in the polytechnic, a total of 100 staff posts will have disappeared by September.

It says that a total of 63 will be "lost" by increasing student enrolments without appointing new staff, a further 30 by resignations leaving posts unfilled and another 15 by extra students who are expected to enrol in September above the planned increase.

The ATTI also accuses the polytechnic of running "an unbridled spectacle of the literature giving advice to itself via a system of bogus consultation".

They say that the academic board and its sub-committee on evaluation have in wide through masses of papers which make it difficult for decisions to be taken or for the directorate to be changed. One academic board has 310 pages of documents amounting to 100,000 words.

"Their contents cover the activities of a bewildering assortment of boards, committees, sub-committees, working parties, agencies and a labyrinthine business to trace any simple item from its start to its conclusion."

Ms Judith Hamilton, secretary of the Barking branch, said that a situation was expected to get worse and could lead to a challenge to the directorate in September.

Staff are not likely to be kindly to increased student numbers when enrolments are increased in September," she said.

The document adds: "It follows that our teaching situation working conditions in September will be very substantially worse than now unless the polytechnic carries out its expressed intention of meeting cuts in staff with commensurate cuts in its undertakings."

A conference on devolution in education was held at Edinburgh University last weekend, sponsored by The Times Educational Supplement, Scotland. Speakers from the universities, further education and the schools asked what kind of responsibilities for education the Scottish Assembly will have and what kind of changes will follow. David Walker reports.

## Minister warns of transfer chaos

The complex administrative problem of devolution of education has not yet been touched, Lord Croft-Crowther-Hunt established his own commitment to the transfer of political power away from Westminster.

He argued that Britain was undergoverned by elected representatives and that Whitehall and Westminster were vastly overburdened with work. Devolving power outside the ambit of government by moving decision-making closer to the people.

Steadily avoiding any hints in his discussions of the options available in Scotland Lord Croft-Hunt was forced to point out that leaving the universities outside the ambit of the Scottish government would make much educational planning ineffective.

"If the universities are excluded will it be possible for Scotland to have effective planning of all post school education, determining the balance of student expansion, for example, between the universities and the Central Institutions?"

He then spoke on reserving powers of veto for the United Kingdom government for legislation passed by a Scottish assembly. It would be wrong in his view to plan further and higher education on an England and Wales basis.

For example, if the number of teacher training places were being reduced in England would it make sense to give the Welsh carte blanche on the number of teachers produced in Wales?

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## Sue Reid reports on two surveys of graduates' first employment

## Job hunting blurs binary line

The patterns of movement by graduates of British universities and polytechnics are becoming steadily more alike, a dual survey of students' first destinations, published recently by the Central Services Unit for Careers and Appointments Services, has shown.

The unit, giving detailed information about polytechnics for the first time, says changes of route into employment suggest that graduates from both sectors are making increasingly similar career choices.

Movement figures were published in two related booklets. Information for the polytechnic booklet was prepared by a working party of polytechnic careers advisors with the cooperation of the Committee of Directors of Polytechnics and the help of the Department of Education and Science.

Universities' details were drawn up by the statistics sub-committee of the Standing Conference of University Appointments Services. The figures were processed by the Universities' Statistical Record.

The overall survey pinpoints a steady fall in the number of students going on to research and further study from university while showing an increase in the case of polytechnic first degree and Higher National Diploma graduates. Thirteen per cent of university graduates chose research or further study in 1974, while the number from polytechnics totalled nearly 12 per cent in the case of HND students and 7 per cent in the case of first degree graduates.

The unit believes the significant increase in polytechnic leavers going on to further study and research is largely due to students on HND courses waiting graduate status and first degree courses.

There was a drop in the number of university graduates going on to further vocational training in 1974, as there was in the polytechnics. But while there was a fall in the proportion of university leavers entering teacher training—15 per cent of the 1974 total compared to 17 per cent in 1973—the polytechnic figures were up.

A 1972/73 pilot survey pointed to a rather smaller percentage of graduates entering teacher training from polytechnics than from universities but in 1973/74 the figure rose to 10.4 per cent of the known first degree students, a significant increase in the number over the previous year. Rather fewer HND students went into vocational training, preferring employment, and only 12 of the 2,319 included in the survey entered teacher training.

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Similar changes in employment occurred among HND students with entry into industry and commerce falling from 85.5 per cent in 1973 to 77.8 per cent in 1974. But of the HND students leaving polytechnics rather more women entered employment than men, 68 per cent compared to 58 per cent. Among those women with HNDs entering employment 59.8 per cent chose industry and commerce and 24.3 per cent public service while the figures for male HND students were 83.5 per cent and 11 per cent.

At the polytechnics there was a drop in the percentage of leavers choosing industry and commerce. Engineering and allied industries fell from 24.9 per cent to 20.6 per cent, and building and civil engineering, down from 10.7 per cent to 7.3 per cent, suffered most. Entry into other commerce, which includes retailing and distribution, also dropped nearly 2 per cent.

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Although the Central Services Unit stresses that the figures released may suggest certain trends they suggest caution in making predictions especially as survey results in the polytechnics' case are only available for the past two years and the demand for graduates is constantly fluctuating.

However, both the polytechnic working party and the SCUAS statistics sub-committee say that so far, the call for graduates and diplomas has been maintained at a higher level than might have been expected and, they add, the figures show that graduates from both sectors are making similar choices.

This has been underlined by Mr Bill Kirkman, of the University Careers Advisory Service at Cambridge and chairman of the SCUAS statistics sub-committee, who says patterns of movement by graduates of both parts of the binary system are becoming more alike.

He claims this particular trend is a disappointing one for many people, including himself, who have acknowledged there is a difference between the two forms of higher education.

Those willing and able to examine the figures closely would find that many of their preconceptions about major differences between universities and polytechnics' outputs were challenged rather than confirmed, he said. They would find, for example, that the proportion of polytechnic graduates who went to work in industry and commerce, although higher than the university proportion, had dropped by comparison with the 1973 pilot survey, whereas the university share was fairly stable.

They would also discover an increasing interest among polytechnic leavers in becoming school teachers—a field of work in which there was a declining interest among university graduates.

In the past, said Mr Kirkman, it had been impossible to make realistic comparisons between the university sector and polytechnic sector or find out what was happening to graduates because no figures were published on the destinations of people leaving polytechnics.

Now the gap in statistical knowledge had been partly filled with the publication of what he hoped to be about two-thirds of the polytechnic graduates and higher National Diploma students who emerged from polytechnics in 1974 simultaneously with the outline details for the whole of the university output for Great Britain.

Mr Kirkman said the appearance of the two related booklets marked an important advance in knowledge about the products of higher education and was an important stage in the co-operative effort which went on between university and polytechnic advisory services.

If it was accepted that one of the major problems of educational planning was to get the demand for educated people, the supply of them and their response in what jobs were available into some sort of equilibrium the start had been made in collecting basic information. The booklets, said Mr Kirkman, were a step in the right direction.

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## Friday People

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THE TIMES LITERARY SUPPLEMENT

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## Call for new NUS strategy to influence government

The National Union of Students must redirect its policy to come to grips with the changing political situation which is now increasingly represented by the new three Rs of rationalization, reorganization and restriction, Mr Al Stewart, deputy president of the NUS said last week.

"The current strategy of NUS is to fight for the restriction of the education cuts and to oppose further cuts. But in the face of political reality, with a right wing Labour economic policy, this has not been achieved. I do not think it can. We need to apply our minds to the creation of a totally new strategy arising out of our existing policy."

"This means a totally new direction for NUS. We have to evolve means of directly and effectively influencing central government policy on public expenditure as well as on detailed educational policy."

"The time has passed for the all-or-nothing approach, the grand gesture, the blunder, the overstatement. We need to isolate precise targets and fight them through."

Mr Stewart said it was doubtful if the NUS could ever dream of restoring the cuts as the Government had already stated that they were worse to come. He called for a new approach from trade unions in giving education a major priority.

"This is a fight for survival—the survival of education. To win it, we need the right objectives, the right strategy and the right allies. I want to see the NUS find all three over the next few months. This is a task for the NUS, the trade unions and now Mr Fred Mulley, the new Minister for Education."

Mr Stewart told *The Times* last week that he was disappointed at the appointment of Mr Mulley. He now believed that education ex-

penditure was increasingly being decided by Mr Wilson and Mr Healey in consultation with senior civil servants with little regard to the views of educationists.

Moderate students should play part in the affairs of the National Union of Students for it was a politically unrepresentative of spoke only for a small minority. Mr William van Stratten, of Bedford College, London, said.

Using the EEC referendum campaign to pursue his point Mr van Stratten claimed the leadership of the NUS tried to secure a new against membership while in colleges and universities there was no doubt students were going to stay in.

In meeting after meeting attended the advice of NUS leadership on this political question has been cheerfully disregarded and it should have been left unmanipulated out from student bodies but from the Committee's influence in the union," he alleged.

The only way in stop the being unrepresentative political was for more moderate students to take part, said Mr van Stratten. There were many fields of action where the NUS had considerable expertise and it was crucial how valuable their contribution when it came to the subject of students' grants.

Mr van Stratten added that he thought some, at least, of the fringe improvements in this year's settlements stemmed from the expert knowledge and professional presentation of the union and he praised the NUS for its expertise on the needs of overseas students.

"In all this activity students should be increasingly represented, and then perhaps the NUS can truly say it is representative of all students," he said.

## Electronic music gets £9,000 boost

A research fellowship for the study of electronic music will be established at Keele University with the help of a £9,000 grant from the Leverhulme Trust Foundation.

The research fellow is to be appointed for a period of two years, and his programme will involve the presentation of various kinds of electronic music to audiences at Keele and elsewhere, alongside the development of his own work as a composer or performer.

Professor Peter Dickinson, the university's first professor of music, said last week that electronic music had been misunderstood, by many people both inside and outside the musical profession.

It was hoped that the new project would lead directly to wider understanding of the need for this new medium.

## 16-19 year olds like study by post

Most students of the National Extension College, the non-profit making correspondence college in Cheshire, are between 16 and 19 years of age, the college has revealed in a survey by the college has revealed.

Of its 10,000 students 7,000 are between 16 and 19 years of age and half are still in full-time education. They study by correspondence, resist failed examinations or do not have subjects not on the school curriculum. Reasons for taking courses given by a pilot group of students who had finished their time education were top concern, lack of a suitable class and preference for working at home.

None of the students, who are between £8 and £20 for a course, receives any financial support while off from employment.



## English teachers

from Messrs D. W. Hopkins and N. T. Roberts  
Sir—As two teachers, quite happy to accept Mr H. S. Davies's label of "English literature teachers" (THESE, June 6), we are both alarmed and astonished at some of the qualities with which it appears, he thinks this label invests us. We presume from his letter that he thinks that a command of "the more formal and objective register of the language" is likely to be outside the range of students trained by "English literature teachers", who are only capable of encouraging in their students a command of "literary and self-expressive English". Is Mr Davies (himself, we note, a university teacher of English) implying that clarity and precision of thought, in whatever "register", are qualities lacking by the great creative writers of our language? In our mind, these are central contributory factors to their greatness. And is Mr Davies denying that one effect of studying such writers might be to instil a similar clarity and precision in the student, besides doing what a "linguistic" approach in language so rarely does—that is, to suggest to the student that there is some connexion between language and his concerns as a human being?

Our own experience with our sixth form "literary specialists" reveals a very high level of success in the use of English excommunication. We have, incidentally, had similar success with students of science, whose preparation for the Use of English examination has been conducted, almost exclusively, via a course of "literary" study.

Many of the assumptions in Mr Davies's statements are, we fear, perceptions of theories serving to live off language (which it is assumed can be mastered by a series of technical exercises) from literature, which, in our view, constitutes the means whereby language is organized into significance, and which provides the only means whereby the student can get some idea of the full range, precision, and possibilities offered by our language.

Yours sincerely,  
D. W. HOPKINS and  
N. T. ROBERTS,  
English Department,  
Wyggeston Boys' School,  
Leicester.

## Vico

from Mr Andrew Belsey  
Sir—Dr Gorman's remarks on my review of Leon Pompei's Vico, (THESE, May 23) though shorter than my review, are long enough to contain a misunderstanding of my position.

Dr Gorman appears to believe that because I mentioned Dr Pompei's historical approach to Vico I am therefore advocating what he calls "external" history of ideas, which I understand to be the role of ideas to the social and economic conditions. While there might be a place in historiography for this approach it was not what I was putting forward in this instance; what I was commenting on was the lack of an intellectual context for Vico, as I should suppose the reference to Vico as a post-Cartesian philosopher would suggest.

I regard this sort of history of philosophy as still very much external history of ideas, though it goes beyond the examination of matters internal to the text discussed. Whether it is a "historical" or "philosophical" account seems beside the point, which is, to understand in the case of Vico, I agree that these methodological lapses are "ideally" arguable matters, and that they are not to be presupposed. I am therefore grateful to Dr Gorman for giving me the opportunity to clarify my position, which I realize was too highly compressed for easy comprehension.

Yours faithfully,  
ANDREW BESELY,  
Department of Philosophy,  
University College.

## Human movement

from Dr H. T. Whiting  
Sir—One expects a certain bias to appear when a correspondent is writing on a subject with which he is genuinely concerned. However, when prejudice is detected, motives might be suspect.

Your correspondent R. B. Morgan, in discussing Human Movement Studies and Physical Education, rightly draws attention to the national tendency to replace Physical Education degree courses by a subject termed Human Movement (THESE, June 6). It is a statement which I would heavily endorse and which led to my commenting in a recent article. There seems to be some sort of glamour in the term human movement studies or human kinetics in which many members of the physical education profession see a solution to all their problems. By substituting the term human movement for physical education the subject suddenly becomes academically respectable.

The great crux in fact, only lip-service is paid to the pure and applied study of human movement and the work in physical education becomes artificially constrained. At the same time, other members of the physical education profession recognize that a study of human movement can be worthwhile for students of physical education but would equally accept that such a study is not the prerogative of physical educationists and, more important, that it does not constitute the only area of interest to such students.

Had Mr Morgan's article been restricted to this topic alone he would have rightly been applauded, but to use this kind of introduction as a springboard for an attack on the fast developing field of human movement studies is both unworthy and illogically conceived. Human movement studies is not the invention of physical educationists. It was implicit, for example, in the work of Descartes (1611-1671), and the eminent Swiss physiologist Bernstein as early as the 1920s was concerned with developing what he called the science of human movement.

In presenting "coffees studies" as a paradigm for human movement studies, it can only be assumed that Mr Morgan has never read (I assume) a syllabus of education in disguise. Similarly, in questioning the use of such a study, he seems not only to doubt the integrity of this large body of people in this country and overseas earnestly concerned with the preparation of meaningful degree syllabuses, but to be unaware of the fact that there is a faculty of human kinetics in the University of Waterloo, Ontario, and a large department of human kinetics in the University of Guelph, Ontario. In addition to having a large number of registered students and also being over-subscribed, human kinetics department is concerned with the preparation of physical education students per se. Perhaps an examination of their syllabuses would prove illuminating?

Those concerned with the development of human movement studies would resist Mr Morgan's contention that an "illumination of this phenomenon of human movement" is outside the realms of possibility because of its universality. In a similar way, they would question the logic of his suggestion that a course in human movement "... to deserve the name would cover the whole ground or a significant part of it."

This is as naive as to assume that those studying life sciences at degree level must necessarily study every aspect of living organisms or, worse, that every student must study every aspect of history! And where would the student of psychology be?

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## Land Bill

from Mr C. W. Parkes  
Sir—Further to Mr Brock's letter on training manpower to operate the Community Land Bill, I note that the means whereby language is organized into significance, and which provides the only means whereby the student can get some idea of the full range, precision, and possibilities offered by our language.

In his letter he also points out that the College of Estate Management was specifically founded and geared up to provide education and correspondence courses for the professional examinations since 1919. Regrettably he omitted to mention that the college has also since 1919 taught for the external BSC (estate management) degree of London University, until the last examination was conducted in 1974.

This London degree was replaced by the Reading BSC degree to estate management, which was introduced in 1969, to which external candidates were and still are admitted.

However, the regulations and conditions governing the award of the University of Reading's degree are different and less favourable than those relating to the former London University degree, which placed no restriction on the number of attempts an external candidate may make for each part of the degree examinations.

At the same time, the estate's profession also lost out with the withdrawal of the external London BSC (estate management), and the ongoing subjects which a postgraduate student could offer.

## Coloma

from Mr John Addison and others  
Sir—As the staff of one of the latest small colleges of education to be closed by the Department of Education, may we make some observations.

Such closures might seem reasonable at a time when higher education is being reorganized, the birth rate is falling and there is an economic crisis. A smaller all-graduate teaching profession emerging from large educational institutions might seem a tidy solution to a multiple problem, but it hides two serious deprivations.

One lies in the loss of the experience of a small college. It has been the experience of this small college that a surprising number of students with no A-levels can qualify for the BEd degree. Now there will be no longer equality of opportunity for such people to enter the profession.

The other loss is less immediately apparent. Academic success alone does not make a good teacher. There is the essential quality of caring and it is to the small, concerned community where the individual is of importance that this quality is most likely to be developed. Though "caring" is not measurable its absence is felt and it is largely unrecognized as a casualty of the assumption that in education bigger is better.

There are now in schools well-qualified, dedicated teachers who, under the new dispensation, would have no chance of qualifying. They, like many of the colleges that have produced them, would be considered inadequate.

We speak for the whole academic staff of Coloma College when we suggest that perhaps the criteria of adequacy should be reexamined.

Yours faithfully,  
JOHN ADDISON,  
JOAN HOPKINS,  
CATHERINE KELLERHER,  
JOAN KENNEDY,  
BRIAN SANDERS,  
Coloma College of Education,  
West Wickham,  
Kent.

## Earthquakes

from Dr John Gribbin  
Sir—In his review of *The Jupiter Effect* (THESE, May 15) David Blundell makes one statement which should not pass without comment. I take no exception, of course, to his views on scientific merits (or otherwise) of the book; he is entitled to his own opinion. But to say that "California is well aware of the likelihood of further movements along... the San Andreas" is grossly misleading.

My colleague Dr Stephen Plagemann is a Californian, and one of our objectives in writing *The Jupiter Effect* was to make Californians aware of the dangers they live with. As was shown, for example, by the television special *The City That Waits to Die*, inhabitants of the state are blissfully unaware of the dangers, and tend to feel that anything does happen, it will be someone else, and probably not in their lifetime.

There is also the problem of attention has naturally focused on San Francisco as the site of the most recent great earthquake, when today it is Los Angeles that is at greater risk. So as well as the scientific arguments about the magnitude of the California earthquake, it is likely to happen again, and in the southern, not the northern, part of the San Andreas.

Incidentally, it is a little misleading to mention such work as that of Wood and Allen in this context; they discuss earthquakes of magnitude five or more, relatively infrequently compared with the great magnitude of the San Andreas, which is likely to take place in the southern part of the San Andreas.

It is quite possible that we may see both a magnitude five area near Hollister in 1978 and a magnitude eight event as discussed by *The Jupiter Effect* a couple of years later.

Yours sincerely,  
JOHN GRIBBIN,  
Collegio Terrace,  
Brighton.

## Project data

from Mr J. R. L. Swain  
Sir—As a further comment to the letter of S. W. Hockley (THESE, May 30) you may be interested to know about some of the data we have been collecting in connection with the Bedford Physical Science Education Project at Chelms College.

One of the aims of the project was to broaden the sixth form curriculum by opening up the possibility of sixth formers doing an arts subject with physical science. Over a two-year period (1973 and 1974) we found that approximately 13 per cent of the candidates who entered the examination (approximately 200 per annum) took a non-science subject. Of these candidates who offered one non-science subject 27 per cent went on to do some form of science at university, but only 11 per cent went on to do an arts or related course at university. Less than 1 per cent of the candidates who did two science subjects went on to do science at university.

It appears that the flexibility of the timetable which is presently at Marlborough College may allow pupils still favour the well-known path of the traditional (BSC) science subjects, and the mathematics and physics course (BSC) at university.

Yours faithfully,  
J. R. L. SWAIN,  
Wilsoe School,  
Wallingford,  
Surrey.

## Comprehensives

from Mr Glyn Neme  
Sir—In reply to Mr Hockley's contribution of some of the findings of *How They Fare: The Impact of the Comprehensive School upon the University* it is difficult to disagree with the parents of those children at one public school to know that they too will have some of the effects which are widely available to schools with open sixth forms.

Its implications are important in the continuing debate about the future of local government in this country. Its experience is probably more important for the future of our schools and universities than they realize.

I refer to the system, formally embodied in a minor Education Act

## Don's diary

## Out to work

Brunei on a summer day. Where are the students, as a visiting journalist asked three summers ago? This fourth year is doing exams. Students in the first three years are not on work placements; Brunei is a sandwich course place, open for social science students. The staff follow the students to supervise the work placements. Vicarious living for social science done—I have actually been to one building site. At least I learn the going rate for various public sector jobs. Building work beats that hollow.

John has persuaded a London borough to back a building cooperative that would set out to train youths in building trades. He started by doing some building work in raise a minimum of capital. Then he set up a company; Ironic some weeks back to find him, a dedicated opponent of capitalism, enmeshed in the details of company promotion. Now he is busy with satisfying government departments that the cooperative meets the criteria laid down for training grants.

I pick John up at the building site and meet his founding partner, but not the immigrant trainee who still has difficulty getting up to the morning. John gloomily notes the coop's prospects once he returns to Brunei in October; furious about the legal and insurance difficulties, Sasseford and public expenditure. We decide the Universities Grants Committee has shown the way to land down public expenditure. Passes for civil liberties, that the dreary old UGC, for so long the dustbin for failed Treasury men, should be capable of that. But we could control even local authority expenditure on the UGC basis.

This has amounted to giving universities protection from the period of inflation, along with a commitment to do something but by no means everything to compensate for inflation. And how the universities have screamed: And how they have cut costs.

The UGC can tell universities that a science-based student should on average cost £600 per annum. Why should not central Government tell local authorities to meet

of 1968, whereby the government of institutions maintained by local authorities is determined by Statutory Instruments and Articles of Government which demote the powers of local authorities to co-opt representatives of the teaching staff. The system is modelled partly on the arrangements for voluntary aided schools, and colleges and partly on those of the red brick universities. It began to evolve in the mid-1950s in the colleges of advanced technology. It was strengthened by the comments of the Robbins committee in 1963; and it was spelled out in the Weaver report of 1966 and in subsequent circulars and advice from the DES.

It is timely to review it now for several reasons: the current state of college amalgamations involves renegotiations of college governance; upheavals in local government have raised new problems and upset existing understandings; the Taylor Committee on School Government will inevitably take stock of the college experience; and finally, perhaps not least important, most of the polytechnics have now had time to review their experience of the system and are seeking its further development.

To those who remember the 1950s in the colleges the changes have been dramatic, indeed, unbecomingly so. When it was first involved in the Association of Teachers' representation in college government, even those engaged in degree work, was to be a distinct prospect and to the local and national authorities.

It is a pity that the system, formally embodied in a minor Education Act

## Among Mandarins

To lunch in Whitehall—or rather in the Charing Cross Road since the Civil Service Hotel drives out reasonably food. Jack is an old Treasury hand, in exile and despair. Sasseford and public expenditure. We decide the Universities Grants Committee has shown the way to land down public expenditure. Passes for civil liberties, that the dreary old UGC, for so long the dustbin for failed Treasury men, should be capable of that. But we could control even local authority expenditure on the UGC basis.

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Rates for building work beat public sector rates hollow.

equivalent cost norms for their services? Can't he do more than Jack reports—official committee says so. We sigh for a politician who could recognize that goose and boe it.

Thence down Whitehall and to the National Liberal Club to visit a more traditionally politics placement in the Liberal International. Winston is compiling a comparative guide to the policies of Liberal parties outside the UK. Learn about the policies of the Liberal International. What is a Liberal party in, say, India? Or in Israel? Two years ago a Brunel student helped with a similar guide to EEC Liberal parties. Buy a copy of that guide and make a note to review the library holdings on the political systems of smaller European states.

On my way out notice that Anne Hooge, the headmaster of the Labour Campaign for Britain in Europe, was two adjoining rooms in the basement of the National Liberal Club.

On my way home I stop off at Belgrave Square, the post office of the Minister for the Arts. My mind, however, is right at the top, in the servants' quarters, with the Library Advisory Council (England). This pompously named body is meant to advise the Secretary of State on library matters; its terms of reference cover the national and academic libraries as well as public libraries. A sub-committee "covers" the work of a dedicated statistician in trying to establish what the nation spends on libraries. Our best estimate for 1975-76 (at 1974 survey prices, purists will wish to know) is £44m on national libraries, £40m on academic (including all higher

appointments were generally made by a committee of local councillors with the principal and perhaps a head of department in attendance. When, in 1959, Middlesex County Council decided, as a pioneer, to permit local government to co-opt representatives of the teaching staff, they were told by a deputation of college principals that this would destroy all the work they had been doing for years! When, at about the same time, Brunel College took its bold step, establishing an academic board, every one of its members was nominated by the principal. Most of the colleges of these days were governed like the schools and many further education colleges today.

The reforms were started 20 years ago when the involvement of industry in college management was part of the development of sandwich courses in technology. They were accelerated by the influence of the National Council for Technical Awards, the predecessor of the CNA. But the real turning-point was the publication of the Weaver Report on the government of colleges of education.

The political circumstances of this report are important. It was written in 1966, a time when the fact is that the reforms were the price they had to pay to retain their status in higher education.

The Weaver Report was a deal. If the leaders of the local authorities had not agreed reforms along these lines they would have lost the colleges of education almost immediately and the polytechnics subsequently.

This is not flippant teasing; that is a serious proposition that is germane to some of the most difficult problems confronting education and democracy in this country at the present time; and both are to be

education) libraries, and £93m on public libraries.

So more than a quarter of the nation's spending on libraries goes to higher education; and of that, half goes to universities. Time, perhaps, for some university librarians to consider how adequate a reference in their local communities. Would Philip Larkin or Hull agree?

## To many cooks

Tutorial day brings the students back from their work placements to Brunel. We organize seminars, two for students in public sector jobs. A colleague takes one for students working in education and the social services. The 10 students in my group range over central government departments and the local authorities.

We discuss the current cry against overstaffing. Of the 10 only one has seen no evidence of this. Anne, whose work has taken her round the central administration of a local authority, is depressed by the rampant empire building.

Why do we accept a management theory of a sort of report which promotes bureaucrats who overstaff their departments rather than those who get things done? I suggest that the institutionalization of a civil service department may account for this; the civil service has a tradition for judging its performance, and can therefore indulge in reckless story spinning. Knowing smiles greet this Treasury prejudice. I look forward to next year's courses with these students; they will have some experience of government-to-plutocrat mine.

To lose the colleges rather than retain them under loosened control. Less worthy of respect were those, i.e. as that acquiesced in the deal and subsequently wished on it or pretended that it was all a glibly misunderstanding.

This is worth recalling because some of the new authorities are now trying to turn the clock back. Recently I have been variously assured that Weaver is outdated by local government reorganization, the Bains Report (on local authority management), the Industrial Relations Act and the economic crisis. No doubt some guardian of the parish pump will shortly explain that the referendum, result of the price of petrol has rendered academic freedom null and void.

A deal is a deal and the day the Weaver reforms are pigeonholed the question of local authority control of colleges goes back on the table. We have the ideal man in post to make that clear: the Secretary of State responsible for local government, none other than Anthony Crosland, the man who negotiated the deal in the first place.

Bains and Weaver survive, not merely as reports gathering dust, but as men, reported alive and kicking. Crosland should invite them in lunch and set them to work to write a short postscript to their reports. This should explain that the problem of reorganizing public responsibility, management, efficiency and academic freedom is susceptible to intelligent analysis and solution.

This is not flippant teasing; that is a serious proposition that is germane to some of the most difficult problems confronting education and democracy in this country at the present time; and both are to be

Jack has ring in fix a unmiro. She is a first year student from Neasden, complete with Private Eye blouses, two children and a supportive London Transport busman who is an active trade unionist. Her husband has helped with the children enough to free her for a student timetable; but he could not manage the times for any work placement we could find her.

As it is her first year, we have reluctantly compromised. She will do some typing, which she has arranged locally to fit in with the children, and continue with some more formal academic work. Presumably her husband's trade union work this summer will keep her closely in touch with public affairs.

Nevertheless young mothers will be a growing problem for us. Brunel represents a later chance of going to university for a huge number of married women over most of the old country of Middlesex. Can we find a large enough number of suitably flexible work placements to meet their family needs? After all, governments are not like sociology, which my colleagues tell me can be studied anywhere.

## Placement plight

We ivory, too, about whether we can continue to find enough placements anyway. Local authority finances will get tighter. Are Brunel students work placements the disposable fringe of their cheap labour during the summer season? The next two seasons will show.

Meanwhile placements change with fashion and style in public administration. The survey of needs under the Chronically Sick and Disabled Act is over; it seemed as though half the work was done by Brunel students. Now that vehicle and driving licence administration is being centralized in the (devolved) Swansea office, Brunel no longer supplies that division of the GLC with Easter to August labour.

Awful Dolekings Hall work, you may suppose, in my first year at Brunel I have had eight such placements to supervise, and sent the student on a policy of "flow in the Minor Car and Politics and Crozier on *The Bureaucratic Phenomenon* and boped for the best. To my amazement I found morale high and as much interest in how to organize that work as the Treasury's fiscal policy. Now, however, former colleagues will say but still something learnt about public administration.

## David Shapiro

The author is reader in government at Brunel University.

rdy, not merely in the colleges but much more extensively. The challenge of increased efficiency is immediate, and dangerous if we do not respond to it quickly and positively. If we cannot reconcile efficient management with our ideals and our mission, we must assume that in the resolution of the dilemma our ideals will prevail.

The advocates of democracy in the colleges and universities frequently overlook the fact that the majority of people there is a more important democracy of the whole population outside and above them. It is a superficial view indeed of the Weaver reforms that regards them as merely a gloss in the edifice of complete academic autonomy. They are a tentative basis for a realistic recommitment of interests, rights and responsibilities of academics, students and the world outside the campus.

If the colleges do not work to build up confidence in the system they may find themselves under a curse. If the local authorities do not play their part they may lose, not merely a few colleges, but the whole of education as well, because increasingly parents and school-leavers are inclined to seek for their share of academic freedom.

Local authority managers who glibly insist, on some occasions, that they are different from any other service they control are merely serving a demand to take education out of local government. A tradition of more than 2,000 years of education is different from power over the building will not be lightly set aside by the people of this country. They may have some moments but they will have a bit of sense.



## A day with the CNA—'guardian of academic standards'

Scenario: James College of Education, one of the best in the country, has merged with a polytechnic. It has decided to seek validation from the Council for National Academic Awards for a Diploma of Higher Education and a Bachelor of Arts degree.

So, in common with many of Britain's former colleges of education, James College has entered new and unfamiliar territory.

The result, drawn up over six months, comes to six volumes and nearly 400 pages, a comprehensive introduction to the college, the polytechnic, their staff, the origin and aims of the programmes, administrative arrangements, the structure and organization of the courses, the curriculum, methods of assessment, the library, funding lists and so on.

The college wants to put on a Diploma and a BA (Honours) degree, with options in English, history, geography, religious and moral studies, French, art studies, music and sporting studies. It will be a modular course: six 15-hour modules for a DipHE and eight for a BA. Students can take either three or four subjects, reading at least one subject throughout the three years of the degree but able to choose from five combinations of subjects in the final year.

If such a procedure is unfamiliar to most colleges, it is also unfamiliar to most universities. Many academics, indeed, must wonder why so much fuss is made about the merits of the CNA and why a few commentators suggest that university courses should be subject to equally searching scrutiny.

So that *THE TIMES* could answer such questions and see the CNA in action, the council recently allowed me to join a visiting party of the Combined Studies (Humanities)

Board, under the chairmanship of Mr Bill Gutteridge, director of complementary studies at Aston University, as an observer when it went to "James College". It was, as they say in school essays, a fascinating and exciting day.

Our party of 15 was made up of six people from universities, five from polytechnics, and four from colleges. There were specialists in eight subjects, two members of the DipHE panel of the CNA, and two senior members of the council's staff from London. Each had received a bulky folder from the CNA. One document recalled that a visit had been made to the college in October, that members had been quite favourably impressed by some of the staff, and included two pages of their comments on the proposed courses.

It was noted, for example, that members would want to discuss the overall weight of the course in terms of student workload and the distinction proposed between the honours and unclassified degrees. Members had considered that use of the courses was overladen and that some of the proposals for "integration" were perhaps rather "far-fetched".

The Board had agreed nevertheless that there was a prima facie case for a visit to the college and potential for the development of a satisfactory course, although the staff would need to accept that the end result might be a more streamlined course than the college proposed.

As the visiting party was driven to the college, hundreds of hours of work were therefore about to be scrutinized to see if they were worthy of the CNA seal of approval. Even as we entered the college, the tension was palpable.

A CNA visiting party meets first

in private to agree on the questions to which it will seek answers during the day. Some of them during our visit were:

● What were the consequences of the merger for staffing? Could academic standards be maintained in the newly formed polytechnic? What kind of departmental structure was envisaged?

● What was the college's genuine attitude to the DipHE? Was it, for instance, a diploma course or was it simply two years of a degree misnaming as a DipHE?

● Would the student groups be viable when, for instance, a first-year entry of 50 was offered eight options?

● The proposal was for short "fat" mainstays: would this system allow the students to mature and would it give them "spaces in-between" a tightly scheduled academic programme?

● Why were art studies included? Was it simply because there was an art department?

● How did the college arrive at the apparently clear objectives to each syllabus? Did they question the notion of a general education in the humanities?

● Did the college really intend to assess two thirds of the degree with only 100 of the total of 500 marks? Were 3,000 word essays too long?

Eleven members of the new polytechnic's directorate and senior staff were then invited to meet the panel, which questioned the administration of the polytechnic, the consequences of the merger, the responsibility for the direction of courses, any staff tensions, and student welfare. After this about 20 staff crowded into the hall to answer questions for another hour. The panel then visited the library, noting, for instance, that there were only 600 books in

the history section. The "investigation" continued informally over lunch until it was time for a 20-minute scrutiny of individual departments and their staff by the specialist members of the panel.

I sat in on the examination of the English department, which was frank and open. The main criticism from the visitors was that the students would be forced to hunt for them to read some of the texts sufficiently thoroughly, that the programme was too prescriptive, and that students would be exposed to too many experiences simultaneously.

The climax of the day came at 3.30 when the panel met in private to decide whether the CNA should approve the college's proposals. There were critical reports on the quality of the proposals and the DipHE, mainly based on the quality of the staff, deficiencies in the library, or the structure of the course. The criticism of the DipHE was that it was not a genuine two-year programme, that no thought had been given to intake and outlets and that the college and the polytechnic had not got together to consider the Diploma.

Among the other reports were: English. The staff could teach the course but they were overloading the students and being too prescriptive. The syllabus should be loosened.

French. Stuffing impressive, adequate courses. What, however, was the policy of the board about the role of language: either it was a significant subject within a group of options, in which case it should be given proper treatment, or it was ancillary.

Geography. Staff better than their course. They had not thought out

the step to honours level, two syllabuses would need restructuring and the library was only just sufficient. There were critical, if promising, reports on music and history, as well as the possibilities for support courses in political science, mathematics, visual communication and social biology. All these reports would be supported later by detailed comments sent to the college by the CNA in London.

So to the chairman's summing-up, a "searching of consciences" and eventual agreement that the college should be given approval to put on a BA humanities degree with options in English, French, geography, history and music. Some strict conditions were added, however. The college, the panel agreed, should think again about its "big-dated" plans for examinations and assessment as well as the role of the dissertation, and the syllabuses in English history, music and geography. It could nevertheless go ahead with a degree.

Several thoughts remained for this observer. If James College was at all typical, many colleges may be tempted to draft their proposals to flatter the CNA that they have read all the right textbooks or the curriculum and are familiar with the curious use of high-flown jargon and curriculum developers. CNA visiting parties are not misled by the approach.

Secondly, the CNA deserves its reputation as well as the central position it now occupies in the development of the civic sector of colleges and polytechnics. It forces staff to think seriously about what they are teaching and why. Above all, if the visit that I observed was typical, it is a guardian of academic standards, which is worthy of emulation elsewhere.

## Where do all the students go in the summer time?

"If you are a student, you are the most privileged traveller in the world," says an executive of NUS Travel, the biggest of the student travel bureaux, which is owned by the National Union of Students. And the huge range of travel concessions, and cheap inclusive tours and destinations, available to students this year add weight to the claim.

The student charter flight network now covers most of the world, and fares are usually only about one third of the normal fare. Demand is such that the holiday "seasons" are a thing of the past. "We used to arrange our flights to fit in with things like university terms," says NUS Travel, "but with so many students wanting to go overseas, and so many overseas students travelling too, it is now an all year round business."

But the summer vacation is naturally still the holiday peak, and students are now busy picking through special brochures like the NUS's *Student Traveller* or buying plans for an independent venture during which they can make use of the travel concessions and accommodation advice offered by student travel bureaux in major cities all over Europe.

Mrs Uechi Wolfenden, manager of the NUS Travel offices (Clifford House, 117 Euston Road,

London, NW1), says: "As far as our inclusive holidays, which have been very popular, are concerned, the holiday which appeals to the student is the one that they are not going to find in a Thomson brochure—camping, for example, or caravanning, in Iceland."

"Students like to meet people of the same age and the same interests on holiday, so that is what we are selling them."

So far this year the three most popular holidays as far as bookings through NUS Travel are concerned are Corsica (they have a 14-night camping holiday on the island for £47, including return air travel and the use of a tent but excluding food), the United States, and the Greek Islands.

Greece has received a boost through offers like one which can be found in the Thomson brochure and which might have been tailor-made for students: "Wanderer" package holidays where the price includes the flight but, instead of hotel accommodation, a set of vouchers which can be used to obtain a bed in various hostels. This brings down the price for a one-week holiday in, say, Rhodes to £69, or £87 for a month.

Hiring Romney caravans in the Irish Republic is also "in" this year—a trend which will delight Irish tourism officials who have watched the number of visitors from Britain slump alarmingly in recent years.

But not every youngster has his heart set on a treading holiday. "It is quite surprising—some of the traditional package holiday resorts are still popular with students and with young people in general," says Mr David Phillips, "Moreover, young people have the reputation of being eclectic, but they are just like everybody else when it comes to the attractions of sun, sand, and sea."

Despite their financial difficulties, students seem determined to have a holiday of some kind. Mr Phillips explained: "Everybody has different priorities. Some students spend nothing on clothes—or food—if it comes to that—all year, and save for the summer when they want to get away to the sun for as long as possible."

And even if they do not have the money, many students seem cash prepared to spend whatever they can raise on a one-way ticket to the destination, of their choice, and then rely on earnings from a part-time holiday job to pay for their keep. For these ad-

venturous travellers, hitch-hiking is the most usual mode of return transport at the end of the summer.

Another popular play with the impetuosity in the working holiday which has been arranged in addition to this in Scandinavia this year, as well as in Israel's ever popular kibbutzim. But a grape-picking holiday in the Bequins region of France seems likely to top the popularity parade by the end of the season.

For groups, the Youth Hostels Association (Trevelyan House, 8 St Stephen's Hill, St Albans, Herts) can be very helpful with holiday planning and they too have workbooks and they too have workbooks and they too have workbooks.

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TIM ALBERT concludes his investigation into the scandal of unrecognized academic qualifications

## Out on the campuses with a few familiar names

A country house in Sussex; a block of flats in north London; a rented terraced house in Coventry; a razed street in a slum clearance area in Sheffield. These are the improbable sites for such seemingly learned institutions as the "Sussex College of Technology", the "University of the Science of Man" and "Brantridge Forest School".

All of them are unrecognized institutions which supply their own unrecognized—and therefore apparently worthless—degrees.

A tour of their campuses shows just how difficult it is to find out who are the people behind them.

Bruce Copen, who claims variously to have a PhD, DPhil, and to be a FRSA (whatever that might be), is a former RAF corporal. Today he combines the posts of Chancellor of the "University of the Science of Man", Dean of Studies of "Sussex College of Technology", and principal of "Brantridge Forest School".

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Secondly, the CNA deserves its reputation as well as the central position it now occupies in the development of the civic sector of colleges and polytechnics. It forces staff to think seriously about what they are teaching and why. Above all, if the visit that I observed was typical, it is a guardian of academic standards, which is worthy of emulation elsewhere.

In its well-produced 24-page prospectus "The University of the Science of Man" offers a "newstyle learning", 14 courses, or a gold-embossed International Academic Passport. The prospectus also lists the "Chancellor's" foreword: "Adult education is the world today has taken a turn for the better. More and more people are realizing that education paves a way for a better life, offers a help to hand to those who are in need. Knowledge breaks down all barriers of colour, creed and belief to the common aim of supporting progressive material improvement."

"Dr" Copen then lists his own qualifications: Professor of Philosophy (Lauriston), Doctor of Humanities (Bordeaux), Doctor of Literature (Garmen), Honorary Doctor of Humanities (L/A College of Chiropractic), Fellow, Institute of Aryan Languages, Knight, Supreme Order of St John of Jerusalem (Danis), past-president, British Radiesthesia Association (1949-1969), author of numerous works and adult education courses on radiesthesia, metaphysics, and philosophical subjects.

He then lists his senior staff: Omnid Luv, the vice-chancellor, with a slender list of unusual qualifications: B. Dennis Lory, the registrar; F. V. Frogley, the librarian; and Lucille A. Copen, the executive secretary. Eleven professors are listed, in subjects ranging from chromatography to the humanities, and there are also six visiting professors (including one called Rothschild whose subjects are paleopathology and regenerative therapy).

There follow five pages of general information promising that students will become enriched with knowledge. "The university does not require its students to have any formal education in or allied to the subjects taught, since our teaching methods are complete in themselves."

If you wish to claim study (credit) hours from a similar course subject, photocopies of existing awards or standard records you may have should be forwarded with your application for admission. If accepted, your course material will be sent to you to take previous study into consideration. Fees include £12 registration, and £10 for those wishing to take an oral examination.

There are 34 courses with three options: chiroactic, chiropody and radiobiology—preparation. The courses include Doctor of Homeopathy (12 lessons and four textbooks for £135), or Doctor of Science in Solifessers. Biochemistry (six text books, three lessons and over 2,000

Therapy—a very unusual branch of ESP science in which, with suitable equipment, one may study and manipulate the little known radiation fields in and around us—for £48.

An interesting buy seems to be the course leading to Doctor of Humanities (DHL) and costing £63. "This is a series of seminars on matters and problems relevant to our time, both personal and general, in order to stimulate thought—personal, even ardent disagreement—with the desire to help to develop a responsible approach relative to the present day. . . . These courses are deliberately brief in comparison to many, as in those subjects it is felt that overwork is liable to obscure rather than clarify the issue." (our italics).

The prospectus then lists graduate certificates (with an extra £4 for a Latin version) and diploma farms. There are easy ways of paying. Then there is the International Academic Passport, which entitles the holder to have periodic newsletters from the university and a free two-year subscription to its quarterly magazine. "The passport issued will be the same size as your regular one, clutch bound in maroon, with real gold blocked crest and lettering. The contents will include: one copy of your photographic, diploma, the name of your university, your name, and the word 'Licence' all beautifully hand-engraved, in addition, particulars of your academic record may be included." Cost: £20.

The staff list for "Sussex College of Technology" has a familiar ring. "Prof" Bruce Copen is the dean, B. De Lory is executive secretary, F. Frogley in charge of student records, and "Lucy" Copen the registrar.

Some of the professors of the "University of the Science of Man" reappear with different specializations: Lee Ah Bah turns from diet and nutrition to philosophy of education; Richard B. Cooper from chronotherapy to economics; Wolfgang Solcay from biochemistry to technology adviser, John E. Clements from technology to administration, Jose J. Barahona from anatomy and physiology to psychology adviser, and Karl Hoffman from immunology and dietetics to business studies.

The brochure continues: "The postgraduate awards as listed are offered to those who desire to obtain some mark of achievement in their chosen areas of work or progress. No study courses are involved, the awards being issued upon satisfactory application to the board of examiners, with proof of previous study or proof of similar certification or thesis towards the degree required."

If the applicant is in doubt as to his/her acceptability for these extensive degrees, all papers should be forwarded, with covering letter and evaluation fee (£25). Every applicant is given strictly personal attention by the dean of the college.

The student may be aware of the growing interest in such subjects as business, economics, management, etc. Therefore degrees under these subjects may be obtained such as: business administration, business management, economics, education, biological science. If the student cares to read our degrees we can offer without further study (our italics).

Other subjects on offer include philosophy, science, arts and science, literature, humanities (including services to helping others) psychology, homeopathy, hypnotherapy, naturopathy and home medicine. Fees, which are in four currencies, include £125 for a doctor's degree, £100 for a diploma, and £50 for a certificate. A warning: printed in red ink, so that the words are not read.

ties in the United Kingdom—and therefore their use may be restricted to non-academic activities to which they may be put. "Brantridge Forest School" was advertising in the American magazine *Popular Mechanics* as recently as March, 1974. Since then its name has appeared on a Council of Europe list of unrecognized institutions and four months after we had written from the United States for details, we had not received a reply.

Sydney Lawrence claims to be Knight of Malut, the Duke of do Nevilloy or Nevillay, and president of a college whose history goes back 50 years. His brochure says: "The College of Applied Science Graduate Division was formed by leading citizens under the leadership of the present Duke of Nevilloy and was established by those who were concerned about quality, efficiency and relevance of higher education in today's world."

The college operates from what appears to be a block of flats in 3 Minster Road, Kilburn, London. A few miles away, Lawrence lives in a quiet tree-lined street, 514 address is 78 Christchurch Avenue, Bromley. When we called a woman in an overall told us that he was away at a conference. If we wanted to see him we would have to make an appointment in a couple of weeks' time.

Lawrence replied to our inquiry with a prospectus for the "College of Applied Science, London", and a circular letter. The prospectus is not so well produced as "Dr" Copen's: it consists of 12 pages of tightly packed print gobbled on to a black cardboard cover with gold lettering on the front. There are a number of spelling mistakes.

By concentrating on characteristics essential to meet the critical issues confronting man in the modern world, College of Applied Science, London, England, students will be well equipped to be leaders in labour, the Church, cooperatives, industry, government and education who are creative and useful to their fellow man. With attention given to humanities rather than to science, scholarship is encouraged and the educated man is produced without mental blinkers which prevent him from discerning truths outside of one field of discipline."

However, the real message is contained in the circular letter. "I presume that as you are not residing in England you will not be able to attend the college personally and under the circumstances would be Degrees. Unfortunately we do not run correspondence courses as such for you will no doubt appreciate courses of this kind could be copied from books and a true status of the student in question could not be obtained."

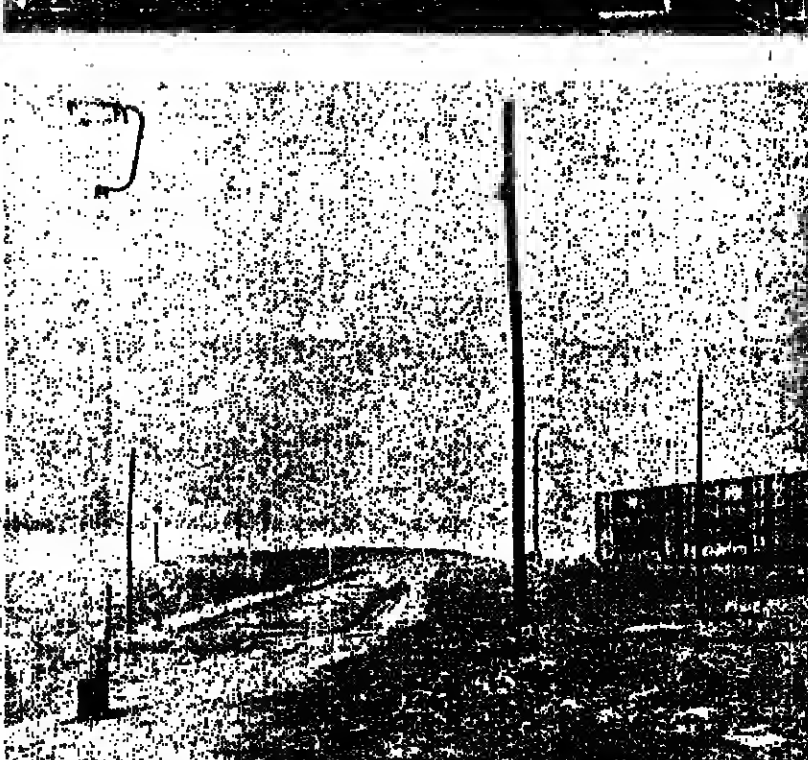
"As we are a private college and do not come under any government grants and being a non-profit organization we have to rely on the fees of students to keep up our heavy expenses. It is with this point in view that the College is prepared to award an honorary degree due to the circumstances now prevailing [sic]."

"The college will therefore consider an application from a student who has the background or qualifications such as a degree from other colleges or universities, or a person who has been outstanding in their particular field. The college can issue any degree that you may be interested in after having received further information from you and we shall be pleased to assist you in any way we can."

William Duncan is a former lorry driver who operated a firm called International Status Symbols from University House, 255 Humber Avenue, Coventry. For £12.50 he would furnish a wide range of degrees from the "University of Coventry to the Nebraska College of Physiol. Education."

However, the University House, a small end-of-terrace house which Duncan rented, is now up for sale. And, according to the shop next door, the estate agents, and the Post Office, his left no forwarding address.

Charles Brerley, now in his sixties, used to operate the "Ministerial Training College" and the "National Ecclesiastical University" from 67 Ditchingham Road, Sheffield. The house has now been pulled down, little has been heard of him recently, and it seems that he, at least, may have stopped his grant-



Unfamiliar campuses. Top: "The College of Applied Science, London"; centre: "University House", Coventry; and (bottom) the site of "The Ministerial Training College" in Ditchingham Road, Sheffield, which has been pulled down.



New York, Greece, and a Greek island (top left)—the three most popular destinations for student holidaymakers this summer.







Frances Hill reports from the annual meeting of the American Association of University Professors in Washington

## 'Higher fees necessary to stop pay slide'

Higher tuition fees at public universities, as well as a substantial increase in public funding of universities and colleges, might be needed to halt the erosion of academic salaries, Mr. Donald Cell, vice-chairman of the American Association of University Professors' Committee Z on the economic status of the profession, told the AAUP's annual meeting in Washington.

Mr. Cell's statement challenged official AAUP policy on the financing of higher education. Last autumn the association's council voted to adopt a policy favoring low tuition fees at public universities, and in recent testimony to a Congressional committee the association argued that federal and state aid for students in the private sector should be reduced.

The real compensation of faculty members might have decreased more than it had during the past two years if public tuition fees had not increased, Mr. Cell argued. Student charges at public institutions increased by about 21 per cent, "which sounds like a lot until you discover that per capita personal income increased by 20 per cent".

For the AAUP to urge the states to freeze tuition fees was "inadvertently to ask public facilities to subsidize their students," Mr. Cell said. He criticized the association's argument that grants and loans to students at private universities should be reduced, saying that "substantial increases in the direct financing of public institutions to limit tuition fee increases should be counterbalanced by increases in reductions—in both grants and loans to private institution students."

The changes in policy proposed by the AAUP would "produce great adversity for that minority of

the AAUP membership that teaches at non-prestigious private institutions."

Mr. Cell's statement makes clear that by no means all AAUP members, even among those on the association's committees, agree with the association's official policy on financing higher education.

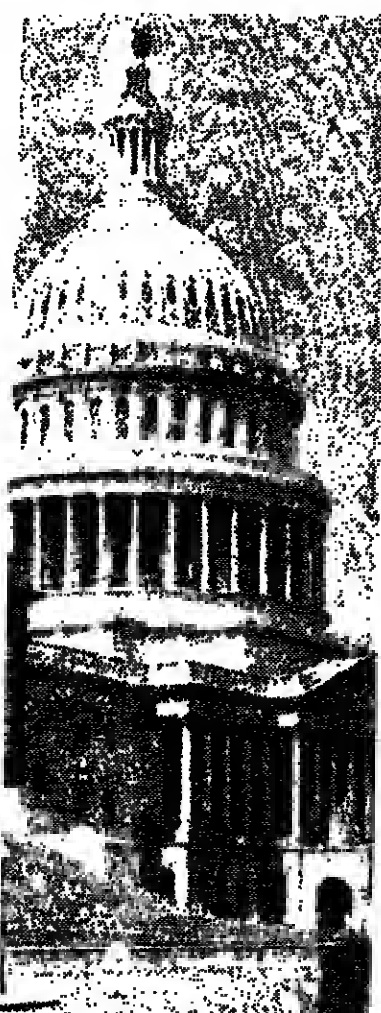
At a session on tuition fees at last year's annual meeting several members of Committee Z, for example, favored an increase in tuition fees at public universities. They argued that such an increase would generate a greater flow of funds into higher education than could be expected from a policy of low tuition fees supplemented by increased federal and state grants to universities.

The council's vote last autumn in favor of a low tuition fees policy followed the publication of a paper by Dr. Joseph Duffy, general secretary of the AAUP.

Dr. Duffy defended the low tuition fees policy on the grounds that higher education should be regarded as of benefit to society as well as to individuals and should therefore be funded, to a large extent, by society.

He said that the association should take a long-term view of the issue, hoping to influence the federal government to commit a larger proportion of its resources to education.

Mr. Henry Yust, chairman of Committee R, on relationships of higher education to federal and state governments, told the conference that the association's policy on the financing of higher education was "flexible." Although the association was in favor of low public tuition fees, he said, it believed that other ways had to be found of raising sufficient money for faculty salaries.



Capitol Hill: where the lobbying begins.

## AAUP goes for Congress connexion

Delegates spent a day before the opening of the conference on Capitol Hill meeting Congressmen. The AAUP believes this to be the beginning of a closer association with Congress. The 200 delegates who met Congressmen will constitute a "national network" in the forthcoming months which will be mobilized "when necessary and appropriate," according to Dr. Joseph Duffy, general secretary of the AAUP.

The result might well be for the first time a clear and consistent expression of higher education faculty concern to members of Congress, Dr. Duffy said. Mr. Henry Yust, chairman of the AAUP's Committee R, on relationships of higher education to federal and state governments, said that Congressmen encouraged delegates to believe that they should lobby on a major programme of higher education associations have traditionally put little pressure on the federal government, either in policy or finance matters, largely because Washington plays a small role in these areas compared with the states. The AAUP's move to lobby the federal government, reflects growing concern over the undermining, because of the recession, of the universities' traditional non-governmental sources of income.

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## Science PhDs warned of bleak outlook

Employment prospects for scientists with PhDs are likely to be restricted in the future, said Mr. Philip Handler, president of the National Academy of Sciences. In his annual report to the Academy, which federal appropriations for research and development approximately levelled off with business in recession and with the opportunities for academic positions constricting there was almost bound to be a surplus of science PhDs over the jobs available, he said.

Mr. Handler suggested that scientists should be given a "broadened education" so that those who cannot find work in scientific research might be able to get other jobs.

Another effect of the outlook in federal funds for scientific research was the "continuing pressure" to use available federal resources for projects promising early practical usefulness, he argued.

Government research departments, such as the Defense Department, the National Institution of Health

and NASA, were putting emphasis on specific applied programmes, but support of individual graduate students and postgraduate fellowships had been markedly reduced.

A "powerful threat" to the career of scientists was the "peer review" selection of research projects for support. Some commentators against federal funding of research projects "with seemingly no titles, usually in the life or social sciences, without examination of the potential significance." The "survival of the fittest" in the selection of projects was being firmly planted.

Mr. Handler attacked an amendment recently passed by Congress which called on National Science Foundation to transmit a message to Congress every 30 days stating the manner in which the national interest was being fostered by the approval of specific grants for research programmes.

## California probe reveals major bias against Chicanos

from Don Speich

LOS ANGELES Chicanos are under-represented at all levels of the University of California, according to a report from a special UC task force.

The task force, comprising university administrators, faculty members and students was appointed in 1971 by UC President Charles Hitch. Its report was released at a recent meeting of the university's Board of Regents.

To remedy the situation, the report recommends a series of steps including the creation of a permanent special commission to advise the UC President "on matters affecting Chicanos." There is no such commission for any other minority group in the university.

A five-year programme of undergraduate scholarships and graduate fellowships for Chicano students admitted to the university is also called for in the report.

The high cost of obtaining the university probably the greatest barrier to increasing the enrolment

of Chicano students, next to the admissions policy," it says.

A commission should be created in devise ways of identifying and admitting "bilingual/bicultural students who are the capacity to complete university studies but do not meet the regular admission requirements."

At faculty level, the report calls for an aggressive Affirmative Action Programme backed by the commitment and the money of the university, implying that this has not been done to date.

The report notes that more than 3,000 Chicano students are enrolled at UC campuses today, compared with between 100 and 200 a decade ago.

It says, however, that while more than 17 out of every 100 Californians are Chicano, only three out of every 100 students are Chicanos.

Mr. Hitch is to review the document and report back to the Regents.

## Guidelines hit 'male' sports

The Department of Health, Education and Welfare has announced a new set of regulations outlawing discrimination in education which will make effect from next month.

Among the many provisions, the most controversial relate to inter-collegiate athletics. Under the new rules, colleges must create women's teams in any sport where men's teams exist, provided there are enough women interested.

They must provide teams of each sex with equal supplies, travel allowances and coaching quality. If a college offers five scholarships for over 100 male athletes, it must offer scholarships to 5 per cent of the women who participate in sports as well.

Speakers at the National Collegiate Athletic Association prelude to the regulations, said the new rules are enforced, and they have vowed to fight them to the last Congressional hearing.

They especially want to exempt football and basketball, which have traditionally produced revenues to support both themselves and other sports.

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Mike Duckenfield reports from the Stockholm conference of the European Ministers of Education

## Ministers spotlight recurrent education

European Education Ministers meeting here last week agreed a seven-point resolution laying down policy guidelines on recurrent education. The resolution emphasized that work experiences should be more widely taken into account as a basis of qualification for admission to higher education and that individuals should have the right to resume education later in life.

The ministers were representing the 21 countries which participate in the Council of Europe's programme on educational and cultural cooperation. The countries include the nine EEC members, all the Nordic countries and EFTA as well as Cyprus, Malta, Turkey, Spain, Greece and the Vatican.

The resolution also said that individuals should have the opportunity for paid educational leave and that education of the 16 to 19 group should prepare students for both further studies and employment.

It agreed that educational provision should be organized in such a way as to balance the financing of youth and adult education and to coordinate it with social welfare and employment policies. Post-compulsory education should suit the needs of all individuals and not just the relatively academic.

The need for policies of positive discrimination to aid the disadvantaged was essential if existing inequalities were to be tackled and the "active encouragement" of their countries to designing modular extended programmes of post-compulsory education and training so that qualifications could be obtained in different ways and at different times through recurrent periods of study.

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The Riksdag, Stockholm.

Other "useful forms of action" envisaged by the ministers were the introduction of policies to reach the socially and educationally disadvantaged and the distribution of educational facilities to outlying communities.

Recurrent education was the theme of the meeting, the ninth in a biennial series organized by the Council of Europe. Lasting three days, it also discussed migrant education and priority areas for European cooperation and attracted a record 150 delegates from the 21 participating countries, seven observers and guest countries and five international organizations, including Unesco and the Organization for Economic Cooperation and Development.

The 12-man British delegation was initially led by Mr. Reg Prentice, prior to his recall to London because of the Cabinet reshuffle. Professor Maurice Weston, the special adviser to the Secretary of State, was also present.

Other ministers and experts present included: Mr. Richard Burke (Ireland), Mr. René Haby (France), Mr. Antoine Hamblet (Belgium), Mrs. Rita Bjerrgaard (Denmark), Dr. J. A. van Kemmelde (Netherlands), Mr. Bertil Zachrisson (the Swedish

Minister, who chaired the meeting), Professor Joist Grolle (President of the Standing Conference of German Education Ministers), Mr. Guido Brunner (EEC Commissioner for Education and Science) and Mr. Georg Kaha-Ackermann (secretary-general of the Council of Europe).

On migrant education the ministers agreed, following discussion on the conclusions of their ad hoc meeting on the subject in Strasbourg last November, that immigrant and migrant children should have the same educational opportunities as those of the host country. While they should be given the opportunity to assimilate the language and culture of their new country they should also be encouraged to retain or learn about that of their country of origin.

Migrant children should have special preparatory classes, educational certificates should be mutually accepted and special efforts should be made to involve parents in the activities of schools.

Three priority areas for future European cooperation were agreed. They were pre-school and primary education, the school to its relation with the community and lower secondary education.

The British government's first priority in future post-school spending must be to extend provision to 16 to 19-year-olds, especially those not continuing with full-time learning or going into skilled jobs, delegates were told in a speech which was to have been delivered by Mr. Reg Prentice, the former Education Minister, but which was read out by Miss Wilma Harte, under secretary of the DES, following Mr. Prentice's recall to London.

"In comparison with several other countries the proportion of young employees in Britain who take part in continued part-time education is far too low. The latest figure of only just over 20 per cent shows no real progress over the situation of 10 years ago," he said.

One solution was the creation of a single comprehensive process of vocational preparation, bringing together existing provision at present distributed between the Department of Education and the Department of Employment, he said.

He said he would be proposing new ways to achieve this when he presents his report on the Stockholm meeting to the European assembly in Strasbourg.

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Italy

## New Ministry aims to boost research

from Patricia Chungli

ROME: Prospects of a brighter future for Italian research have emerged with the Cabinet approval of a plan to create a full-scale Ministry for Scientific Research.

The government has promised for years in Parliament and academic circles to take action over research, a field in which Italy lags badly behind other Western countries. It is noticeable, for example, that Italian Nobel prizewinners are extremely rare. Internally it is of undisputed disadvantage to the economy, industry and social development and makes Italy dependent on scientific research from other countries.

Leading economists have warned that Italy can only overcome its present grave economic crisis if it learns to stand on its own feet technologically.

The Italian state spends only 450,000 lire (£300m) a year on scientific research, around 1 per cent of its total budget—a fraction of the percentage allotted by other developed countries. Another 350,000 lire is spent by industry, with the universities spending only about 10,000 lire, although some are able to get help from the National Research Council.

Until now the main responsibility, such as it is, for research, has lain with a Minister without Portfolio for the Coordination of Scientific Research, assisted by a staff of about 80 but with virtually no authority or legal powers. He supervises Italian space research but has no official control, for instance, over the main Italian research body, the National Research Council.

The first task of the new Ministry, when it comes into being, will be to coordinate and streamline the work of the numerous research bodies, universities and ministries which are now frequently conducting the same type of research independently of each other with great wastage of funds, effort and resources.

The ministry's activities will at first be concentrated primarily in the field of applied research, leaving pure research to the universities.

The plan for the new Ministry is expected to have an easy passage in Parliament and may well be approved by the autumn.

Meanwhile, the research situation in the universities is about to improve with reorganization plans, departmental lines in pool facilities and the creation of laboratories in research—the equivalent of a PhD—which hitherto have not existed in Italy.

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South Africa

## University super-body set up after government inquiry

from Louis Hotz

JOHANNESBURG: New machinery for the direction of university education



## Overseas postgraduates must first prove themselves as undergraduates

Overseas students are usually treated in the same way as our own students in that they must also register first for an MPhil. Many supervisors have also found that it is often wiser to insist that the overseas student should be in the department of the PhD.

I would like to emphasize that this is a very wrong approach. To do this is not only a serious injury

The author is professor of bio-

## Towards a better definition of higher education

for technicians, and, of course, adult education. There is also the increasing complexity of the 16-18 plus problem with large numbers in this age group coming under further education regulations and large numbers under school regulations.

I should perhaps make one final comment. It will be suggested that proposals of this kind would in fact vary seriously on some of the professional organizations that now exist for teachers. I do not think; this necessarily follows. When the different needs of primary and secondary schools were identified and defined in the Education Act, this did not create a complete split within the National Union of Teachers, and I would hope, indeed, that if it were followed we might ultimately see united teachers' organizations within each of the four sections within a corporate body recognizing the particular needs of each sector of the service as defined earlier.

The third blurb was the most misinformed: "...some reviews have even treated it as if it were intended to be a Cook's tour of Western civilization. In the course of our discussions a number of errors for details of the past have been proposed, but at the end to keep some of them as reminders. They were meticulously chosen after long debate. Some of the reasons for selection were personal; it seemed foolish not to draw in any special interest in the classics or Catherine King's in the Renaissance and Brian Stoeckli's in the Middle Ages. Another argument was to include aspects of culture, particularly religion and philosophy, which had not, as far been included. This was also a reason for including something from the Greco-Roman world." A reader intended to draw on what had gone before and to bring together interests from many different areas.

Professor John Ferguson,  
Dean and Director  
of Studies in Arts,  
recalls the early days of  
planning OU courses



put constraints upon how he constructs and uses his models. Modelling can mean thinking of one's problem in a new way (the flow of traffic as if it were a fluid) or it can mean embedding one's problem into a range of interesting smaller problems each of which is better understood than the original one.

The third aspect emphasized in the course is that of general strategies an engineer can adopt to implement his design. The principles of feedback and control, of optimization, of linear programming and of simulation are studied; as are the techniques of systems design, quality control, instrumentation, data acquisition and computation. Wherever possible the computer facilities of the Open University's student computer service are used to illustrate these methods.

(Guide for Applicants for Undergraduate Courses, 1974.)

The summer school, through a series of field and social science laboratory experiments, provides a practical expression of the academic objectives of the course.

"Understanding Society" is not only a foundation for further work in the social sciences, but should also appeal strongly to those who wish to pursue other academic disciplines. For, as Barbara Wootton has remarked, it may fall to the social sciences "to bridge the chasm between the scientific and literary worlds, which is today so widely regarded as a threat to the integrity of contemporary culture. While our subject matter links us to the human world, our methods approximate ever more closely those of the natural sciences."

(Guide for Applicants for Undergraduate Course, 1974)

deigns themselves in any sense. They are not concerned with the question of how to solve a problem, but only that they solve it. They are not concerned with the question of how to solve a problem, but only that they solve it. They are not concerned with the question of how to solve a problem, but only that they solve it.

to "ensure consistency." The course made more use of the course-team, where arts broke "up into working-groups." In fact the scientists described the main aims of their course—which was proudly and sufficiently designated "Science: A Foundation Course"—as "to present and explain some of the concepts and principles of importance in modern science and to show how science, and the society it creates, are interrelated and related to show how the disciplines of physics, chemistry, biology and geology "are related to and depend upon each other, and to show what is common, in method, technique and philosophy, and what is specific to each".

Appear from the basic structure of mathematics, two topics are of particular importance in the Maths-foundation course—numerical analysis and computing. Both are treated in context, not in isolation, and this makes possible work in the construction of mathematical models of scenarios arising in nature and in problem-solving. This is the basic method of the course, and the curriculum displays something of the practical applications and importance.

The course team list some of the topics covered: "Among the universal underlying concepts (the *boom-bo*), we include functions, equivalence relations, binary operations, morphisms, and elementary characterizations of objects. We also discuss groups, rings, fields, vector spaces, Boolean algebras, probability, and statistics."

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The second-level courses in science are difficult for everyone to grasp who has not been brought up in the scientific milieu. The basic structure is multidisciplinary rather than interdisciplinary.

But it will be noticed, too, that developments in science envisage much more interdisciplinary work at advanced levels than in some other faculties, and that this is an important aspect of the faculty's planning. The hope is to assuage the snobbery of scientific specialism, which makes the training of youths at Britain's science graduates irrelevant, and to restore honour to the generalist in science who will have had a first-class scientific education directed to a different end, to helping him to be a scientist in his own right.

An edited extract from The Open University  
from *Women*, written by John Fergus

**Alexander of Potters**  
Lord Alexander G. General Secretary

We carefully contrived that three of our case studies fell within the Renaissance period, preceded by the two main strands of Renaissance thought in classical and Christian history, and followed by the two main strands of

When course labels were handed out, students received A Science 6 and Mathematics M.

tions of algebraic structure, such as groups, rings, fields, vector spaces, Boolean algebra. Some of the topics (the islands) which vividly exemplify these structures are logic, ordering, inequalities, matrices, vectors and com-

communications, engineering mechanics,  
materials science, and systems.

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An edited extract from *The Open University*  
from *Women*, written by John Fergus





**Backhanded**  
from Mrs. Justice Martin

It ought to point out and make clear to the public that I am not referring to students as the "backhanded" beneficiaries of bureaucracy. No doubt about a phrase to suggest the but in fact I wrote "backhanded." A

to mean left-handed. In other words the hand that did the damage was the left.

I imagine Dr. Frank Perkins would like to be relieved of his additional duties. I am sure that Michael Oakley, after receiving a call, his middle "e" yours faithfully,  
**BURNICE MARTIN**

English applicant for the chair, has found himself caught up in this unfortunate business, other English academics contemplating posts at the University of Sydney, should make careful inquiries first to ascertain the degree of academic freedom permitted there in reality.

Yours sincerely,  
I. D. DOWNING

with the help of the Open University.

A television lecture is doubtless a poor alternative to the stimulus of direct contact with a fine mind; but it can be a good deal better than nothing to an isolated student.

May one suggest that Mr. Brough's comment was unnecessary and inappropriate—even, perhaps, thoughtless.

Yours faithfully,  
L. A. GILBERT.

So how do these women crucially differ from the rest of the population? Interestingly, that is the principal investigator of the women's movement, Yolanda Murphy, prepared the first work, a time when the presence of women's movement was first developing. She is clearly a sympathizer and senses that the women's movement is the "notre of the sex" and that it is in their state of subjectivity. This is because they hold the most precious asset: residential stability and group unity. Furthermore they are protected from the phenomenon of the man's symbolic language, by indifference. This is the first world of the own practical importance. At least this is how the argument is stated from the sonnet.



However, the same characteristic among the nearby Bororo is what he did not see. He noted the "nonchalance with regard to the supernatural", yet confirmed that "few peoples are as deeply religious as the Bororo, few have so elaborate a system of metaphysics. But their spiritual beliefs and their habits of every day are so intimately mingled that they do not have any sensation of passing from the one to the other. . . . Religion is taken for granted. . . . Yet . . . the layout of the village does not only allow full and delicate play in the institutional system; it summarizes

Hutvetten to mind: he wanted to set their own history straight. "I'll tell you the way it is, and you'll incorporate the past into the presents." They constantly encapsulate the facts in an unchanging liturgical format which fuses and consumes historical events, and thus they are, as he says, "not aware of the changes, hybrids and perverses all date from the first century of their history."

The second and sociologically more interesting half of the book is devoted to the study of the "annual life cycle" presented in

Apart from these criticisms, which are aimed to encourage women in anthropology, this book is certainly to be recommended, especially to anthropologists and those interested in the women's movement. It is worthwhile to weigh up the inponderables of men's power alongside culture itself with its ritual, myth and symbol, even though these are sex-linked.

Edith Turner

The branching policy is the most striking, but by no means the only example of the Hitlerites' extrajurisdictional activities. Their willingness to adapt to secular change is the context of an unchanging theology. As Huxtable explains: "The emphasis is on group welfare and the de-emphasis on individual rights obscures the friction normally associated with the radical transformation of the existential individual into the key to the whole communal process and is splendidly summed up in a characteristic Hitlerite saying: 'No men with rights has a right to all of his rights.'"



## George Polya: Collected Papers

R.P. Boas, editor  
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# BOOKS

## The authors and Dr Faustus

*Faust in Literature*  
by J. W. Smeed  
Oxford University Press for the University of Durham, £6.00  
ISBN 0 19 713139 5

It is obliging that there should be only one Hamlet, only one Lear. For at least we know whom we are talking about. That there are so many Fausts, so many Don Juans, can be troublesome. Why is it that while both Hamlet and Faust have exercised immense influence on subsequent literature and art, there remains but one Hamlet and a dozen Fausts? Is there not perhaps some fundamental flaw in all the Faust authors or, more realistically, in the nature of the fiction itself, so that no single version is definitive and that the lists are still open after some four hundred years?

The answer may have something to do with the fact that there was a real "Faust" whose Christian name was probably Georg and who had little, if any, right to style himself "Dr". But the record is blurred, and J. W. Smeed properly asserts that we shall never know about him. Just as well, no doubt, for the only thing that does seem clear is that the Faust problem has to do with the transformations of a legend.

The peaks in the literature are well defined. The range runs from Johann Spies (1587), through Marlowe, Lessing, Goethe, Heine, Grottel, Lenau, Voltaire, up to Thomas Mann's *Doktor Faustus* of 1947. Linking each one to the next is a ridge of innumerable lesser heights, with foothills falling away on every side and an abundance of gullies. But what does it all add

up to? Perhaps that is an improper, truly Faustian question, idiomatic to a fault and admitting no certain answer while the otomol striving is on. But it is the most interesting, and potentially the most fruitful line of inquiry.

It is a weakness of Mr Smeed's study that, like Porcia in the Hall of the Grail, he asks too little of the mysteries before him. In his preface he defers to other men's studies of how the legend grew and flourished, and despite the enticingly general title, *Faust in Literature*, his book is a collection of separate essays on such topics as how Faust came to be confused with the printer, the sequels to Goethe's *Faust*, Faustian Don Juans and Don Juanesque Fausts, and the rise of science and corresponding decline of Dr Faust.

Mr Smeed has read widely in the voluminous literature, but his text is so overloaded with quotation and comparison as to be illegible, and no amount of leonine in something striking than he leaves it unexplained in order to get on to someone else's Faust. His book is a collage of bits and pieces, a through-composed melody. There is, of course, a proper scholarly reticence about jumping to conclusions, but there ought to have been a complementary reticence about surveying—far that is the word—such a literature without often doing more than noting the landmarks. "For Faust cured by woman," says Mr Smeed, "see J. P. Schink . . . For Faust cured by Buchius, see J. M. R. Lenz . . . For Faust cured by food, see F. Held."

In discussing those who wrote under the long shadow of Goethe, Mr Smeed brings to light an amazing variety of Faustian diversification. The initiators and improvers had Faust witness the Sock of Rona, had him lahar with Gutenberg at the printing press, had him lead the Peasants' Revolt, and write a pamphlet in support of the Reforma-

tion. They had him imprisoned by the Inquisition, blown up in his own castle, pin on a diet in Heaven and prescribed herbol tea on earth. He has had to spend his nights weeping at Gretchen's grave and his days as a schoolmaster interpreting himself to an unruly mob.

Mr Smeed is an expert and occasionally witty guide to these transmutations, and he makes a good point in suggesting that their authors were generally impatient with Goethe's views on the destiny of man. Indeed they were, but their efforts were much more than the product of the "semiotic confusion" to which Mr Smeed largely attributes it. Certainly they often misunderstood Goethe's use of Christian symbols, but they were entitled to reject that Faust's "adventures" had not been earned, whatever that term may have meant to them. The large specialized literature on Faust's salvation is testimony enough to a persistent obscurity, to an irresolvable ambiguity. On looking into the fortunes of Faust, each man will catch a glimpse of his own.

Who were these recreative critics of Goethe, and why did they write as they did? Mr Smeed has his views too closely glued to the text to worry overmuch about context—and this is what is wanted, not a blanket proof that it was "ill advised" for anyone to express their disagreement with Goethe by taking over Goethe's characters and their track records. Were they really even his?

Mr Smeed's last chapter is his investigation of Faust in the age of science, and there is no lack of context here. Up to Lenin (1836), Faust had been an epistemological stalking-horse, a trial of the morality of knowledge. Thereafter most Fausts, because they have so little to do with the scientific, philosophical and ra-

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Patrick Carnegie

## Spiritual struggle

*Conodoxus*  
by Jacob Bidermano  
edited and translated by D. G. Dyer  
Edinburgh University Press, £1.50  
ISBN 0 85224 269 7

We owe a debt of gratitude to Dr Dyer (and his fellow-translator Cecily Longridge) for providing us with an excellent English blank-verse rendering of *Conodoxus*, which will be a help to the scholar and a pleasure to a much wider public. Their concern to reproduce the atmosphere of the original Latin, with a textual loyalty which avoids distorting literalism, has proved remarkably successful and well fulfils the general editor's intention that the translations of the Bilingual Library "will not be critics' but good literature worth publishing in its own right." Those of us who have school Latin and are acquainted with Melchior's quaint seventeenth-century "Kritikera, lack of pithiness, and additional scenes in acts three and five (probably the result of working from a modified Latin text), are now for the first time put in a real position to assess Bidermano's achievement in writing this monumental drama, which W. Plannig has aptly called "die erste grosse Leistung des Friihbarock." Here we have a play which is neither "lethargic" nor "the most sophisticated work of great immediacy and powerful impact (witness the effect it had when staged in Munich in 1699), seven years after its premiere. *Conodoxus* shows us why the Jesuit theatre became one of the great, formative influences on the emerging European drama and has been of more than academic

Dr Dyer's concise, lucid, and informative introduction places *Conodoxus* in its cultural and biographical context, as well as discussing the play itself. By consulting the eighteenth-century *Historia Provinciae Germaniae Superioris*, the editor suggests a somewhat earlier date (1662) for Bidermano's call to Rome than has hitherto been put forward by scholars such as J. Müller and R. Tietz. He demonstrates clearly that, apart from the tenuous legendary basis of the play, Bidermano's drama is to be read as a repudiation of neo-stoicism with its anthropocentric ethic and as a critique of a pseudo-Christianity which insists in merit not money, external form not inner reality. However, the introduction does not complement this liberal, tropological, and allegorical analysis by mention of the sociological level of interpretation, which—in harmony with medieval and Renaissance theological hermeneutics—would see in *Conodoxus* a human counterpart to Lucifer, whose fall was the superbly so frequently attributed to the protagonist. Thus, *Conodoxus*'s sin and doom present a pale reflection of the cosmic spiritual struggle which has yet to reach its end.

Two notes on the play are kept to a minimum and are concerned to promote understanding rather than elucidate all of Bidermano's many allusions and sources. The edition concludes with a bibliography which could only be improved by the addition of M. Bidermano's valuable introductory essay to *Die 17. Jahrhundert in neuer Sicht*, by Peter Janssen.

The bilingual parallel text is printed clearly facing each other, although a paperback book is saved from film-strip by being saved together in signatures. At £1.50, the edition should attract a far wider market than institutional libraries alone.

## Quest for salvation

*Euripides and the Full Circle of Myth*  
by Cedric H. Whitman  
Loeb Classical Monographs  
Harvard University Press, £4.00  
ISBN 0 674 26920 9

It is usually acknowledged that Euripides' handling of traditional myth was very different from that of the other two Athenian tragedians. It has been argued that he approached it in a more critical, questioning spirit, substituting rigorous rationalism for what had hitherto been ardent belief, and showing often a fragmented view of the world which sprang from a deep scepticism of that myth which he was obliged by tradition to take as a framework for his plays.

Professor Whitman, while admitting the force of this view in relation to some of Euripides' plays, disputes it in relation to three—*Alkestis*, *Ion*, and *Medea*. In *Alkestis*, he sees a culmination point in the playwright's work, "something that the poet had been striving for and had at last achieved, a kind of artistic and philosophic completeness expressed in a drama rounded to fit the liberating whole of myth." Here are not fragmented and semi-satirical or comic plays as is sometimes alleged, but serious plays with a new and total vision of salvation. They are "mythic plays" (but are not most Greek tragedies, mythic?) which express "a totality in which all external irony is suppressed or assimilated, and where elements of romance, melodrama, and even deep psychology may enter, but only to play contributory parts, subsumed and adjusted in the larger compelling vision." Lighted here becomes a "saviour and his brother restored. Holier

walt, finds himself the son of a great god and father of the Ionian people.

Using Nothmann's term, "terminology of the prehistory of modes (alluded to in the title) Professor Whitman believes that Euripides, having passed through a cycle of extreme irony in earlier plays, now begins to recapture myth as a pattern of some kind of whole.

Professor Whitman's analysis of the three plays in this light, three chapters of this book contains some fine perceptions, particularly in the way in which he relates them to their common theme of a quest for salvation, and in the operation of such themes as *tyche* and *deino*, purity and knowledge. But perhaps the most interesting part of the book is the last chapter where he attempts a synthesis, a glancing view at all Euripides' work in the process of placing the three plays to the Northrup Frye cycle. Here he tends to see earlier plays as forerunners of his chosen three—the *Heracles* and *Electra* for instance, groping towards a theme of salvation, but turning aside from it towards revenge. Instead, the *Medea* introducing themes of violence, and the *Hippolytus*, the theme of purity, which were to be developed more fully later, particularly in the *Ion*.

I am not finally convinced that the three chosen plays are so different in such perception of myth from the others, or that they should be viewed as some kind of culmination of the poet's work. Does the *Ion*, for instance, not contain dislocations of structure, ironies, criticisms of divine motivation, and melodrama? Just as forceful as anything in the *Heracles* or *Electra*. And does not the fragmentation prevent a harmonious vision? This is perhaps a point for debate. But as with Professor Whitman's previous work, this book is stimulating, elegant and, sometimes refreshingly contradictory.

# BOOKS

## Forensic verse

*The Rhetoric of Renaissance Poetry*  
edited by Thomas Sloan and Raymond Waddington  
University of California Press, £5.50  
ISBN 0 520 02501 6

The ten essays which comprise this collection deal with the theory and practice of rhetoric in relation to English poetry from Wyatt to the late metaphysicians. Rhetorical criticism has become very sophisticated these days, involving not only the study of the figures but the different traditions and stances of oratory as they spilled over into poetry. The result is a style of criticism which combines the detailed analysis of an Erasmian with the scholarship of a Rossetti. It is a fruitful blend which can improve surprisingly wide implications from even small details.

The fifth essay, for example, on Shakespeare's fifteenth sonnet, establishes it in the traditional scheme of rhetoric associated with Providence; and in doing so challenges the common autobiographical assumptions about the sonnets and throws interesting light on Shakespeare's sonnet pose as a man of middle age. The sixth essay is a most perceptive analysis of the real novel of Daniel's "rhetoric of thoughtfulness" and the ninth essay demonstrates, through a look at hyperbole, that Crashaw was in no danger of confusing his mystical raptures with the sexual raptures in terms of which he described them.

There are, however, some inevitable problems when scholars, who have had to master the complexities of traditional rhetoric the hard way, turn their attention to the delicate little artifacts tossed off by poets for whom rhetoric was so touch second nature as to be almost spontaneous. Some of Wyatt's lyrics, for example, are almost lost under the scholar's need to bring their precise meaning to light. Moreover, there are dangers in assuming that the rhetoric of oratory stays the same in function when it is transposed into the free medium of poetry. In the long essay with which Professor Shawcross opens this book he examines the use by poets of forensic rhetoric, the mode designed to state a case in the courts and ask for a judgment, as opposed to deliberative oratory whose aim is to move to action. In this sense he makes a very fine distinction between Wyatt's "Dialo me non without desert" as a

plea for judgment, and the same poet's "Forget not yet the trial" as a plea for love. The final distinction, perhaps, since it can be argued that the cunning poet is in fact crossing the forensic with the deliberative and using his plea for justice as an indirect mode of winning his mistress. There is obviously a great deal of sense in the forensic rhetoric, especially among the sonnets of the period, but a glance at Sidney will reveal how consistently Astrophil uses the forensic as a means of winning his Stella, and what a variety of functions, both deliberative and epideictic, it can be made to perform. Professor Shawcross's attempt to define the lyric as the "forensic" mode of poetry in the strictest sense of the term limits the firm unity.

If Professor Shawcross pays too little attention to the dramatic context in which poetic rhetoric is used, Professor Marotti goes to the other extreme in his stimulating essay on Donne's "Exile." He argues very plausibly that the poem is autobiographical, a declaration and a defence by Donne of his recent marriage, addressed to the circle of his friends among whom the poem was circulated. All rhetoric implies an audience of some kind. To explain the *voile* face between the earlier and later parts of the poem, Professor Marotti assumes the presence of a platonically minded reader who does not share Donne's own sense of the spirituality of physical love and who has, therefore, to be wooed by the seeming platonicism of the opening until, in terms of which he described them.

The finest essay of the collection is the last one by Professor Sloan who examines and explains the changes in rhetorical theory and practice in the seventeenth century. He shows, on the one hand, how the printing press forces rhetoric, an essentially public and oral art, to adjust to the contemplative privacy of the reader; and on the other, how the new poetry of meditation replaces an external by an internal audience as the poet himself listens to the voice of the person he has created. Through this final essay all the others in the volume fall into place to make a very satisfactory and coherent sequence.

Maurice Evans

## Opening up epics

*A Middle High German Reader*  
with Grammar, Notes and Glossary  
by M. O'C. Wolke  
Oxford University Press, £4.00 and £1.90  
ISBN 0 19 872078 and 872082 3

*A Middle High German Reader* by the philologist Joseph Wright, originally published in 1888 and twice reissued by Mr Wolke is the distinguished ancestor of this book. The publisher's claim that it has now been completely rewritten is certainly an exaggeration, since it incorporates numerous passages from the earlier editions. But the new version does set out more clearly and succinctly the main grammatical features of Middle High German, the purpose being to provide an introduction for the reader of literature rather than the student of language. The book is beautifully printed and produced, an open invitation to students to equip themselves patiently with the basic knowledge required to read some of the most splendid works in German.

Most of the representative passages are key episodes from the great epics, such as the quarrel of the queens in the *Nibelungenlied* or the drinking of the love potion in *Tristan*.

author rightly deplores one of Leichmann's textual emendations which has no authority in the manuscripts. Yet he has chosen for his extract from Ilse's *Der Arme Heinrich* an edition whose author is not cited but which contains readings that must appear as unnecessary conjectures in the light of the latest edition of the text by Ludwig Wolff. This incorporates the evidence of a recently discovered *Benediktiner* fragment. There is little point in scholars producing new critical editions if their labours can be dismissed in a bibliography as "convenient" but otherwise disregarded.

There is a very useful new section on the meaning of key words in medieval literature but it is questionable whether *minne* later "developed away from the idea of spiritual, largely platonic love" if Keimhild can use the word already in the *Nibelungenlied* in allusion to Siegfried. Had been the first to deflower Siegfried. Nor is it certain that Brünhild ever believes this allegation to be true, as a note avers. For Brünhild, Siegfried's crime is that he, her liege-lord, has boasted of having possessed her, which is an affront to her sense of hierarchy. Keimhild's hint that she had been Siegfried's concubine is far worse truth she never admits.

I hope that this useful new edition will be read as widely in years to come as its predecessors were.

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## BOOKS

## The physicist who came in from the cold

Joseph Fourier: The Man and the Physicist  
by John Herivel  
Oxford University Press: Clarendon Press, £9.75  
ISBN 0 19 528149 1

Jean Baptiste Joseph Fourier (1768-1830), well-known for his *Theorie Analytique de la Chaleur* (1789-1801), well-known for his name, led an unusual life. He played a leading part in the French Revolution, was imprisoned twice and, unlike for example Lavoisier, escaped with his life. He was an important member of Napoleon's Egyptian campaign and was permanent secretary of the Institute of Civils (1798), Bonaparte being

vice-president and Gaspard Monge president. He became a member of the French Academy in 1816 and a fellow of the Royal Society in 1822. He was an admirer of Lagrange and had cooler dealings with Laplace and Poisson who were critical of his work. In 1815 during Napoleon's hundred days he "left Grenoble on the night of 7 March. By the twelfth he was in Lyons. When he left Grenoble he was still Prefect of Isère under the King. When he reached Lyons he had become Prefect of the Rhone under Bonaparte."

A remarkable metamorphosis which, together with other episodes and reflections on the contemporary scene, makes part one of this book absorbing reading.

The second part contains an analysis of Fourier as a physicist. Although we can look back on more than a hundred years of study of Fourier as a mathematician, the emphasis on Fourier as the theoretical physicist is new, and complementary to his earlier work. The author modestly discloses any intention to produce a definitive work on Fourier, which he feels will perhaps be written "by one of Fourier's own compatriots". It is clear, however, that this is a remarkably thorough study whose part one and appendices will be of importance not only to historians of science, but also to historians of the French Revolution. Part two will have a more limited appeal. The historians of science who follow the layman, errors and ruminations of a theory, in this case the conduction of heat in solids, will find it essential reading. Others will examine this part more superficially.

The author suggests that the motivation for Fourier's study of heat flow may have originated with the sudden change in climate Fourier experienced in 1801 when he moved from Egypt to Grenoble, a change which appears to have given him severe rheumatic pains. He apparently always wore an overcoat and was "often accompanied by a servant with sonther coat in reserve". Anyway, leaving this speculation on one side, it is certain that by 1807 he had written his memoir on the propagation of heat and the book traces its progress to become a prize essay in mathematics for the year 1811, with its first printing which was begun, but not completed, in 1816.

The author does not pursue the direct and indirect consequences of

Fourier's work in as much detail as one might have liked. Perhaps one of the most striking ones is that William Thomson (Lord Kelvin) borrowed Fourier's book in 1840 from the Glasgow University library, read it in a fortnight and applied the theory to the cooling of the earth, thus convincing himself and many others, that cooling was taking place at such a rate that the age of the earth could not exceed one hundred million years in stark contrast to what had been claimed by Darwin and the geologists. This great geological controversy was resolved only when it was realized that the heating of the earth by radioactivity had to be included in Lord Kelvin's calculations, and peace descended again on the warring academics.

Peter Landsberg

## Rivalries

Originality and Competition in Science: A Study of the British High Energy Physics Community  
by Jerry Gaston  
University of Chicago Press, £5.50  
ISBN 0 226 28429 2

Despite the rivalry and competition between the *heps* and *hets*, both camps have dedicated their lives to the cultivation of the elpaf fruit. "The sole aim of the *hep* is in breed a significantly new variety of elpaf, as measured by the beauty of its flower and . . . the fragrance of its fruit . . . work together as a gang under the direction of an experienced headman. The harvesting of a satisfactory crop of elpaf is extremely expensive and laborious, calling for great communal resources. Rivalry . . . within a gang is firmly suppressed . . . The competitive incidents reported by anthropologists have almost always involved leg gangs from different tribes—*ak-heps* in competition with *us-heps*, for example."

It is in such phrases that John Ziman's charming and perceptive "anthropological" preface contrasts the theorists and the experimentalists in this study of communication and competition within the high energy physics (HEP) community in its search for elementary particles. There is nothing new about studies of the reward systems in science. We know that there is competition and rivalry, secrecy, priority disputes and occasional feuding. Originality is the goal, and the prize goes to the who first stakes his claim. However much science may be described as a body of verified public knowledge, the processes by which the fruits of knowledge are cultivated is an essentially human affair involving passions, rivalries, fears and hopes. The anthropological perspective is, in this sense, singularly appropriate. And while it may be fashionable to challenge the simplistic claims of some scientists to an objectivity and detachment which bears little resemblance to the reality of the process of creative discovery, this study of competition and the struggle for recognition exemplifies the rigorous control within the social system of science which, though imperfect, ensures the high quality of scientific knowledge.

If this were all, this book would add little to our basic understanding of the social organization of science. The study was first published in the *British Journal for the Philosophy of Science* in 1971. But its value lies partly in its comparative approach, and partly in challenging the current neglect of the institutional context of science. (Merton is no longer fashionable.) For what is clear from this study is that it is the organization of science which affects the behaviour of scientists in their cultivation of knowledge. It is because the system of funding in the United Kingdom and the United States differ—because British universities are less hierarchical—there is less personal competition, and more freedom to concentrate in doing science than in career mobility Generalizations from American studies to British science, or from one special subject to science in general are thus strongly challenged. What this book does not do is attempt to resolve the paradox of the ideal of disinterestedness with the reality of the pursuit of personal glory. Indeed, the study is in many ways too close to the Mertonian model of science, especially since Merton's work on the Apollo "rocket" scientists.

This is not a book for the general reader, nor for introductory courses. It bears all the marks of its origin as a PhD thesis. But for the serious student of the sociology of science, it is more than a useful case study and replication of earlier American work. Patterns of communication and of competition and rivalry are both shown to be complex.

Paul Davies

## Imperfect crystals

The Solid State  
by H. M. Rosenberg  
Oxford University Press: Clarendon Press, £6.50 and £2.25  
ISBN 0 19 521833 1 and 521831 3

Dr Rosenberg's book is part of the Oxford Physics Series which aims to give a closely integrated coverage of the material needed for degree courses in physics, or physics in combination with other subjects. This volume is suitable for second-year undergraduates in physics, in materials science and engineering. As the author emphasizes, one of his aims was to write a slim volume and though he has succeeded in keeping it at around two hundred pages, it is still twice the length of a typical book in the series.

A feature of the book is the emphasis it puts on the fact that real crystals are imperfect. On the first page we are told that many solids (e.g. glasses) are not crystalline at all, but it is not possible to cover this later area in a book of this level. Nevertheless, after a chapter on crystal structure and a second on waves travelling in a lattice, the third chapter is devoted to defects and disorder: a proper recognition of the importance of imperfections in solids. Vacancies (Schottky defects), interstitials and other defect centres are briefly discussed, the ideas being introduced that there is an equilibrium concentration of vacancies present in any crystal at an elevated temperature, the number being determined by the energy required to form a vacancy, relative to the thermal energy.

The next chapter is then devoted to dislocations. The concept of such line imperfections, going back to Taylor, Orowan and Polanyi, is of considerable importance in the study of solids. Mechanical properties have been given much attention by physicists than many other properties of solids. It is therefore a useful feature of this book that the student can acquire enough background to enable him to tackle specialist books on the relevance of dislocations to crack propagation and fracture: obvious central problems in solid state technology.

Electrical conductivity and the ideas of electronic energy bands are discussed clearly, though this material can be found in many other places. The chapter on the physics of the semiconductor p-n junction is of considerable clarity and emphasizes further the author's view that the subject should be taught from a practical standpoint.

It is a pity that the author, who has already written a useful volume on low temperature physics, felt it necessary to omit superconductivity completely, as this is important not only for the profound ideas (e.g. Cooper pairs of electrons with opposite spins moving together over large distances without scattering), but also has great technological interest.

There are problems at the end of each chapter, obviously valuable in allowing the reader to assess his grasp of the material before proceeding further. Useful advice for further reading is included as well as a short table of physical constants and conversion factors. The paperback version is good value for money and well within the range of the student's pocket.

N. H. March

## Plant cells

The Physiology of Giant Algal Cells  
by A. R. Hop and W. C. Walker  
Cambridge University Press, £8.50  
ISBN 0 521 20513 1

The movement of molecules into and from living cells and the relationship between structure and function in cells have long provided an area for active biological research. Plant cells are perhaps even more difficult to study than animal cells in this respect, because of the cell wall, which acts as a weak ion exchange resin and easily occludes micro-electrodes, and the very thin layer of cytoplasm as compared with the large central vacuole. Giant algal cells, whether or not eucaryotic, tend to present fewer difficulties and have thus been the favourite organisms for the study of plant cell transport. In the *Journal of Cell Science* in 1971, but its value lies partly in its comparative approach, and partly in challenging the current neglect of the institutional context of science. (Merton is no longer fashionable.) For what is clear from this study is that it is the organization of science which affects the behaviour of scientists in their cultivation of knowledge. It is because the system of funding in the United Kingdom and the United States differ—because British universities are less hierarchical—there is less personal competition, and more freedom to concentrate in doing science than in career mobility Generalizations from American studies to British science, or from one special subject to science in general are thus strongly challenged. What this book does not do is attempt to resolve the paradox of the ideal of disinterestedness with the reality of the pursuit of personal glory. Indeed, the study is in many ways too close to the Mertonian model of science, especially since Merton's work on the Apollo "rocket" scientists.

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The major portion of the book is concerned with the movement of water, non-electrolytes, and ions through the giant algal cells and the correlation between transport and electrical potentials, action potentials, active accumulation, and protoplasmic streaming. These topics are treated in a fairly complex but physically rigorous way. There are two appendices which explain the derivations of some of the equations used and also a good reference section. However, few general review articles or texts, which might aid the less sophisticated reader, are included.

The authors provide a well-written, quite sophisticated, review of transport in giant algal cells. While unsuitable as a textbook for undergraduates because of its complexity and price, it would be useful for postgraduates and research workers with a knowledge of biophysics.

This is not a book for the general reader, nor for introductory courses. It bears all the marks of its origin as a PhD thesis. But for the serious student of the sociology of science, it is more than a useful case study and replication of earlier American work. Patterns of communication and of competition and rivalry are both shown to be complex.

D. M. Bailey

## BOOKS

## In four dimensions

Regular Complex Polytopes  
by H. S. M. Coxeter  
Cambridge University Press, £9.80  
ISBN 0 521 20125 X

The reputation of Professor Coxeter, as a writer in geometry, is such that the appearance of any new work by him is an event of some mathematical importance. This is doubly the case when he writes about polyhedra and their generalizations—a subject that he has made peculiarly his own over the last fifty years.

He tells us in the preface that the relationship of this new work to his earlier *Regular Polytopes* is much like that of *Through the Looking-Glass to Alice's Adventures in Wonderland*. "The sequel is more profound; it is essentially self-contained, but some of the same characters reappear with recognizable but slightly changed names, and there are many new characters of the same sort, but even more fantastic."

The early chapters are introductory, being mainly concerned with geometry in two or three-dimensional space; but we soon move on to explore the more exciting space of four dimensions with the monogamy of strange geometric configurations that inhabit this space—including the 16 regular polytopes. There are also chapters on the geometry of quaternions and on the enumeration and presentations of the finite multiplicative groups of quaternions.

The later chapters are concerned with geometry in complex affine

spaces. The *n*-dimensional unitary space is introduced using vectors, Hermitian forms and inner products; the two-dimensional case is studied in great detail, and there is a complete enumeration of the finite reflection groups in the unitary plane. This leads to the climax of the book, which is an exposition of recent results on regular complex polytopes and honeycombs.

The whole is written in the style typical of Professor Coxeter—infectiously enthusiastic about developing the main themes, yet always willing to be side-tracked in order to point out some new insight or unexpected connexion. There are digressions on such diverse topics as magic squares, frieze patterns, kaleidoscopes, Cayley digraphs, Clifford surfaces and crystallographic groups. There is also a great deal of historical background and anecdote; and these readers who enjoy the author's habit of introducing his chapters with (sometimes outrageously inapt) quotations will find plenty to amuse them.

Over and above all this, however, the most outstanding feature of this book is its diagrams. Many of these are quite breathtaking in their beauty and most rank among the finest examples of mathematical art that have ever been published. The frontispiece, from a drawing by Peter McMullen, is particularly spectacular.

The book is beautifully produced and must take its place as the finest of all Coxeter's books. It is not cheap—good things never are—but it is an investment in which all good geometric libraries should indulge; they will be incomplete without it.

John Tyrell

## new from

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## Catastrophe in space-time

The Large Scale Structure of Space-Time  
by S. W. Hawking and G. E. R. Ellis  
Cambridge University Press, £10.00 and £3.95  
ISBN 0 521 20016 4 and 09906 4

Although the title contains the word "catastrophe", this is not primarily a book about cosmology, but rather a collection of modern developments on topological and global aspects of space-time physics. In the last decade, our understanding of the properties of space-time has increased enormously by analyses which have concentrated on certain general structures of space-time, such as the causal structure. One of the more spectacular results of this work has been the proof of the so-called singularity theorems. These theorems, primarily due to the brilliant work of Penrose, Hawking and Geroch, state that under a very wide range of reasonable physical situations, space-time will develop a catastrophic feature known as a singularity, which is referred to by the authors of this book as a kind of "edge" to space-time. Such a singularity is expected to occur at the end-point of the evolution of a massive star, which may undergo violent gravitational collapse to form a black hole. The black hole itself is a region surrounding a singularity. Recently, much excitement has been generated by the

possibility that a black hole has been detected in the constellation of Cygnus. The other context in which singularities are discussed is the beginning of the so-called big bang which is frequently held to represent the creation of the universe. Although only the final chapters of this book are devoted to a description of these events, in a sense they are the main purpose and chief conclusions of the book.

The development of the subject matter is straightforward and well presented. The authors set up the mathematical formalism for their subsequent discussion in chapter two of differential geometry in a modern coordinate free notation. Although the essentials of the mathematics are given, the reader really requires an acquaintance with point set topology and modern calculus. The discussion of the subsequent chapters is in the framework of the general theory of relativity, which is briefly reviewed in chapter three.

There follows a discussion of the first of two main "areas of study"—the theory of the behaviour of families of timelike and null curves in space-time.

A chapter is devoted to exact solutions of Einstein's field equations of general relativity. This chapter, which might well have formed the subject matter for an entire book, treating as it does all the important well-known spaces—Schwarzschild,

## Breadth of mathematical knowledge

Stanislaw Ulam's Sets, Numbers and Universes  
selected papers edited by W. A. Rorer, J. Mycielski and G. C. Rota  
Massachusetts Institute of Technology Press, £7.50  
ISBN 0 262 02108 0

Selected works of Stanislaw Ulam, including papers published between 1929-1971 and concentrating on Ulam's early work and a fairly narrow range of his later studies, are reprinted here. A second volume, intended to cover the other areas. The major difficulty in selecting the work of Ulam is its tremendous diversity. There can be few mathematicians who can compete with him for breadth of knowledge; he took 15 high level mathematics courses to write the compendium.

The first 25 of Ulam's papers are captioned in full and cover significant work in set and measure theory with contributions to group theory and probability. By the end of this period (1935) Ulam had moved from Poland to the United States at the invitation of von Neumann. The influence of von Neumann, the nuclear programme, the development of computers and eventually the space programme show very clearly in the subsequent papers. Out of about 75 written in this period, 25 are

concern the construction of his work in pure mathematics, developments in ergodic theory and the use of computers in number theory, non-linear transformations, Monte Carlo methods and other statistical and simulation techniques.

My own interest in Ulam's work stems from the middle period, and an important paper on ergodic theory. In statistical mechanics the method of working is to assume the validity of the ergodic hypothesis that the "time average" of a property (which is measured) is equal to the "space average" (which is calculated). The mathematical conditions for this to hold were known but it was left to Ulam and Ostroff to show that such conditions hold for "most" transformations. What was not proved and was still not been decided is whether or not physical systems belong to this majority of transformations; the paper does, however, give convincing support to the physicist that his standard practice is correct.

Following this line of thinking Ulam moved on to a series of papers on a similar but more practical theme. He produced a paper in 1949 on Monte Carlo methods, which is a thorough appreciation of the potentialities of computers at a very early stage in their development. The main idea was to use a computer on a small number of particles with all the microscopic data included, to simulate a macroscopic system and to give estimates of macroscopic data such as tempera-

ture. The method has become absolutely standard and now provides basic data on useful physical systems, and a very good tool for ground for approximate methods.

Central to many of these developments is the notion of a transformation of a region of space into itself and of repeated application of the same. This idea was well studied in Ulam's work in ergodic theory. So most practical problems these transformations are non-linear and therefore extremely difficult to study. Working on the principle that "unless you know what one is looking for, it is difficult to progress", Ulam performed a great many numerical experiments on a class of non-linear transformations. These have shown some particularly useful work and emphasize the delicate nature of non-linearities.

The final part is a reprint of a *Collection of Mathematical Problems*. It has been a standard source of mathematical problems for many years and the collection of serious and difficult problems has aroused much interest and stimulated much work.

There are commentaries on most of the reprinted papers and these are useful in pointing the directions in which work has moved since the original. I can recommend this volume to any reader who wishes to see breadth of knowledge in action. It should be a standard in all serious mathematical libraries and in the personal libraries of people who have used Ulam's work.

D. M. Bailey

## William Shakespeare

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S. Schoenbaum

I recommend the book to all who are either fascinated by the life, or fascinated by the problem of why so many people are fascinated with it. . . . It is lavishly and ingeniously made. . . . The whole affair is rather magnificent. —Frank Kermode in the *New York Times Book Review* Illustrated £12

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## SHEFFIELD

## THE POLYTECHNIC

THAMES POLYTECHNIC  
SCHOOL OF BUSINESS  
AND MANAGEMENTResearch Assistant  
in Marketing

Applications are invited for the post of Research Assistant in the School of Business and Management. The successful candidate should have a well-defined research topic, preferably related to the current interests of the School, which include International Marketing and the development of models of business behaviour. This is an opportunity for a highly qualified person to contribute to research in marketing leading to a higher degree, and the successful candidate will be required to register for a research degree of the C.N.A.A.

Salary: £1,544 + £55 (2) + £55 (2) = £2,154 per annum plus £251 London allowance and payments under the threshold agreement currently £229.68 per annum.

Further particulars and form of application may be obtained from the Secretary, Thames Polytechnic, Wellington Street, London SE18 6PP, to whom completed applications should be returned by 4 July 1975.

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## SHEFFIELD

## THE POLYTECHNIC

## SUNDERLAND

## THE POLYTECHNIC

## FACULTY OF HUMANITIES

DEPARTMENT OF  
LANGUAGE AND  
LITERATURE

## LECTURER II SENIOR

## COMMUNICATION STUDIES

London 01

Applications are invited for the post of Lecturer II/Senior Lecturer in Communication Studies. The successful candidate should have a well-defined research topic, preferably related to the current interests of the Department, which include International Marketing and the development of models of business behaviour. This is an opportunity for a highly qualified person to contribute to research in marketing leading to a higher degree, and the successful candidate will be required to register for a research degree of the C.N.A.A.

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## LECTURER II SENIOR



Applications are invited for the following positions at the Gippsland Institute of Advanced Education:

### LECTURER IN PSYCHOLOGY

This appointment is within the Institute's School of Business and Social Sciences. Applications are invited from well-qualified psychologists with special competence and interest in at least one major area of undergraduate teaching. Preference may be given to applicants with:

- (1) Strength in Personality or Developmental Psychology.
- (2) Experience in Applied Psychology.

The successful candidate will be invited to join the staff of the Institute in July 1975 or as soon as convenient after July 1975.

### LECTURERS IN SCHOOL LIBRARIANSHIP

Two lecturers are needed in the School of Education for newly established courses in School Librarianship; one to take up duties as soon as possible, the other to commence 1 January 1976. This year the Institute has introduced an Associate Diploma in School Librarianship which is being offered initially to trained teachers. A Diploma of Education with a School Librarianship strand caters for students who do not already have a teaching qualification. School Librarianship subjects are being taught externally, and it is likely that the majority of students in future years will be external.

The lecturers appointed will be required to support the Senior Lecturer in developing and teaching the course both internally and externally. Applicants should have good academic and professional qualifications in teaching and librarianship, and the ability to contribute to a lively and innovative programme within the School of Education. Special qualifications and experience in the following areas would be an advantage: Children's Literature, Curriculum Development, and Multi-Media Materials.

**GENERAL:** The Institute's academic staff are expected to contribute to the teaching of their disciplines in team situations in multi-disciplinary degree and diploma programmes, in both internal and external teaching programmes. In addition to the programmes offered within their own School, staff may also be required to contribute to programmes offered within other Schools.

**SALARY:** For the lecturing appointments will be according to qualifications and experience, within the incremental salary range for Lecturer, which is currently \$A11,250 p.a. to \$A15,100 p.a.

### LIBRARIAN - DEMONSTRATION SCHOOL LIBRARY

This is a new position in the Institute's Library. A model school library resource centre is being established to serve courses in School Librarianship taught within the Institute's School of Education. The appointee, who will be responsible to the Librarian, will be required to develop the model school library, co-operate with staff in the School of Education, and to contribute to the School Librarianship course itself. Applicants should be professionally qualified as teachers and librarians, and should have a knowledge of young people's literature and multi-media materials.

**SALARY:** Will be according to qualifications and experience, within the incremental salary range for one of the following classifications:

Librarian 1 - \$A 8,712 to \$A10,033 p.a.  
Librarian 2 - \$A10,322 to \$A12,047 p.a.

**CONDITIONS:** Include a superannuation scheme, provision for recreation and study leave, and an attractive staff housing scheme to provide finance for building or buying a home. Fares for each appointee and family, reasonable removal costs, and a salary-in-advance will be paid. Assistance may be provided, if required, in obtaining travel housing. Further information may be obtained from the Registrar.

**APPLICATIONS:** giving full personal particulars (including qualifications, experience, present position, the names and addresses of three referees, telephone number and a small personal photograph) close of 7 July 1975 for the Lecturer in Psychology position and on 21 July 1975 for the other positions, with:

The Registrar,

Gippsland Institute of Advanced Education  
P.O. Box 42, Churchill, Victoria, Australia, 3642.

## CAPRICORNIA INSTITUTE OF ADVANCED EDUCATION ROCKHAMPTON, QUEENSLAND, AUSTRALIA

Rockhampton, a city of 50,000 people is situated on the banks of the Capricorn River, a short distance from the sea. The city offers many advantages of a modern city with its own shopping centre, hospitals, schools, and other facilities. The Institute has a long history of providing quality education in a variety of fields.

### SCHOOL OF ADMINISTRATION AND GENERAL STUDIES

Applications are invited for the following positions:

#### DEPARTMENT OF ARTS

##### SENIOR LECTURER/LECTURER/TUTOR

**Senior Lecturer in Community Studies**  
**QUALIFICATIONS:** The applicant should have a higher degree, with post-graduate attainments of a high order in Sociology, Social Work, Administration in Urban and Regional Studies. The successful applicant should have had considerable experience in the development of study in high standard in multi-disciplinary fields involving Analysis of Urban and Regional Development.  
**Lecturer/Tutor in Journalism**  
**QUALIFICATIONS:** The applicant should have a good degree, preferably at honours level or its equivalent, in an academic field in which there was primary emphasis on the Theory and Practice of Journalism. The person was also seeking would probably have attained a high level of experience in one or more of the media and familiarity with the nature and operations of the media.  
**Lecturer/Tutor in Communication**  
**QUALIFICATIONS:** The applicant should have a good degree, preferably at honours level or its equivalent, in an academic field in which there was primary emphasis on the Theory and Practice of Communication. The person was also seeking would probably have attained a high level of experience in one or more of the media and familiarity with the nature and operations of the media.  
**Lecturer/Tutor in Business Communication**  
**QUALIFICATIONS:** The applicant should have a good degree, preferably at honours level or its equivalent, in an academic field in which there was primary emphasis on the Theory and Practice of Business Communication. The person was also seeking would probably have attained a high level of experience in one or more of the media and familiarity with the nature and operations of the media.

#### DEPARTMENT OF BUSINESS

##### SENIOR LECTURER/LECTURER/SENIOR TUTOR

**Lecturer/Teacher in Accounting**  
**QUALIFICATIONS:** The applicant should have a degree with an accounting major and an interest in one of the following: Accounting Systems, Financial Accounting, Managerial Accounting, Government Accounting, and Finance in Financial Management. Teaching and/or business experience is desirable.

**Lecturer in Administration (3 positions)**  
(1) In addition to the above, the applicant should have a degree with an interest in one or more of the following: Introductory Management, Industrial Psychology, Sociology, Organizational Behaviour, or Public Administration. Experience in business or government is desirable.

**Senior Lecturer/Lecturers in Data Processing**  
**QUALIFICATIONS:** For appointment as Senior Lecturer level, the applicant should have relevant post-graduate qualifications. For appointment at Lecturer level, the applicant should have a degree with relevant major studies. An interest in Management Information Systems or Commercial Systems Analysis and Programming is desirable. Teaching and/or business experience would be an advantage.

### SCHOOL OF EDUCATION

Applications are invited from well-qualified persons to master or doctoral degrees for the following positions, each of which will be filled at one of the following levels:

#### SENIOR LECTURER/LECTURER I LECTURERS II

**Special qualifications required and areas of interest are indicated below:**  
**EDUCATIONAL PSYCHOLOGY (3 positions)**  
(1) Social Psychology of the Classroom, the Study of Teaching and Learning Skills, (2) Theories of Learning, Cognitive Processes, (3) Child Development, or combinations thereof.  
**HISTORY OF EDUCATIONAL IDEAS**  
Relating educational practices of the present and future to the history of education and thought. An interest in the emerging trends in educational theory in contemporary societies.

**COMPARATIVE EDUCATION**  
Comparative Education Through Historical Perspective, Analytic Development, Comparative Social Foundations of Education, Developmental Education.

**POLITICAL AND ECONOMIC INFLUENCES ON EDUCATION**  
Political and Economic Influences on Decision-making in Education, Political Socialization.

**ANTHROPOLOGY AND EDUCATION**  
Application of Anthropological Knowledge in Educational Problems, Minority Groups in Australia and Their Needs.

**PSYCHO-LINGUISTICS**  
Structure and Nature of Language, Language Development, Relationship between Language and Thought.

**EARLY CHILDHOOD EDUCATION**  
Pre-school and Early Primary Education.

**MEDIA AND RESOURCES**  
Use of Audio Visual Media with particular emphasis on the rational production and use of some.

**PHYSICAL EDUCATION**  
Exercise Physiology and/or Motor Learning, plus major Games and/or Gymnastics.

**EXPRESSION MOVEMENT/ANCE**  
Development of courses in association with the existing programmes in Drama, Music, Art and Craft.

**PHILOSOPHY OF EDUCATION**  
Relationship between Modern Developments in Philosophical Thought and Educational Practices.

**SOCIOLOGY OF EDUCATION**  
The position of education in society, the influence of social environment on learning in schools.

**USEFUL ADDITIONAL COMPETENCIES**  
Ability to contribute to any of the following areas would be advantageous, where applicable: History of Art, Children's Literature, Language Arts, Children's Play and Community Recreation, Evidence of school teaching experience, and a willingness to contribute to aspects of curriculum development and evaluation, would be a distinct advantage for all positions.

**SALARY:**  
Senior Lecturer: \$A15,954-\$A18,644; Lecturer I: \$A11,855-\$A15,944; Lecturer II: \$A9,948-\$A12,848; Senior Tutor: \$A10,101-\$A11,855; Tutor: \$A8,286-\$A9,642.

Applicants to commence as early as possible for semester 1, 1976.

**APPLICATIONS:** including full curriculum vitae and names of three (3) referees should be forwarded to: The Registrar, Capricornia Institute of Advanced Education, P.O. Box 42, Rockhampton, Queensland 4700, Australia. Telephone: Rockhampton 381177. Telex: AA 18178.

## A folk revival to gladden the introverts

There has been a general revival of folk culture in the past few years and students have been at the centre of it. Folk clubs and folk dancing are now well part of the student scene and scarcely a day passes without some aspect of the culture being remembered in Cambridge.

Most colleges and several pubs have their own folk clubs. Some concentrate on music in the tradition of Cecil Sharp, who collected three volumes of folk songs in the 1910s. These songs are unaccompanied and their regional origin is very clear, whether they are the "bobby" smugs of the South-west or the Brandy Ballads.

Strains of "I've been a wild rover for many a year" float out of every college club, and the more hear that is drunk the greater is the audience participation. Beatclub members are aware of the greatest supporters of this spirit in the sea shanties enthusiastically even though the Cam may not quite have that salty excitement they evoke.

Besides this often funny and bawdy traditional music contemporary folk is much nearer rock music without inducing the same sense of mass hysteria as hard rock. It is more introverted, personal and exploratory which may explain its greater popularity than rock among

"self-controlled" Cambridge students. As may be the fact that there isn't a hall big enough to hold a concert.

At Steward and Roy Harper's songs are favourites as well as those of the two fathers of contemporary folk, Dylan and Cohen. But many students write their own songs: "Trips Blues" and "Philosophical Rags" are common subjects as are more personal topics. One student guitarist in demand at the moment sings very movingly of the time he was thrown out of his lodgings for having a girl in his room and the

Their club was founded in 1924 and is open to all non-resident in Cambridge interested in learning and performing the traditional Morris Dances of the Cotswolds.

They are a bit wary of the very active women's movement which is quick to remind them that the Morris Dancers, but the women's folk are heard, and their displays seen, at many Cambridge parties and they are rivalled only by the Sword Dancers.

Folk dancing has much more appeal for many people than the trendy Cambridge discote. There is a greater sense of community spirit.

It may be the more aesthetic arts students who explore the Scottish hills for "booby" songs and write their diversions on the Brandy Ballads, but even among the dancing "revels". Often it is the shy chemist, who approaches his college disco with apprehension, who enjoys an English Barn Dance more than anyone else. Certainly the popularity of folk culture in all its aspects—some students even make and treasure corn dollies—is evidence of a general student desire for traditionalism despite all the talk of student radicalism.

## Student scene

tremendous support his friends gave him. Like several other performers who travel college folk club circuits, he wants to sing for his living and university has given him a chance to explore this as a real possibility. Several Cambridge graduates have already made LPs and it is living in an appreciative student community which encouraged them to do so.

Folk dancing is almost as popular. The Morris Men are among the most serious dancers in Cambridge.

Kari Blackburn



"Often the shy chemist enjoys a barn dance more than anyone else."

### Administration continued

#### HERIOT-WATT UNIVERSITY Administrative Assistant

Applications are invited from graduates or others holding suitable qualifications for the above post in the academic administration.

**Salary:** on the scale £1,809 to £3,990, plus threshold (under review). Superannuation Scheme in operation.

Applications and further particulars are available from the Secretary of the University, Chambers Street, Edinburgh EH1 1HX, to whom completed applications should be returned by Monday, 30th June, 1975.

Please quote reference 1/49/6019.

### Colleges and Institutes of Technology

#### LOTHIAN REGIONAL COUNCIL

##### NAPIER COLLEGE OF COMMERCE AND TECHNOLOGY DEPARTMENT OF BUSINESS STUDIES SENIOR LECTURER (A) IN BUSINESS STUDIES

(Reference Code 185/4/9)

To teach Business Administration and cognate subjects to students enrolled on degree and diploma courses and assist in the organization and administration of courses for which the Department is responsible.

##### LECTURER (A) IN BUSINESS ORGANIZATION

(Reference Code 185/4/6)

To teach on HND/MNC Business Studies courses and assist on the BA (Business Studies) degree course. Teaching at degree level would be advantageous.

##### LECTURER (A) IN BUSINESS STUDIES

(Reference Code 185/4/4)

The main duty of the post is the teaching of Office Administration to students being prepared for Higher National Diplomas in the Scottish Business Education Council. The ability to teach Company Secretarial Practice would be an advantage.

##### DEPARTMENT OF CIVIL ENGINEERING LECTURER (A) IN CIVIL ENGINEERING

(Reference Code 5CE/4/6)

To teach courses leading to the CRI Part 2, HND and HNC examinations and to assist in the development of degree courses.

##### DEPARTMENT OF MECHANICAL ENGINEERING LECTURERS (A) IN MECHANICAL ENGINEERING

(Reference Code 3ME/4/11)

The work of the Department includes degree, HND and HNC courses, and staff are encouraged to develop their subject interest particularly with regard to industrial applications.

Applicants for all posts should possess an appropriate honours degree or equivalent professional qualifications and preferably have had industrial research or teaching experience.

**SALARY:** in the range £3,216 to £6,812 (bar) to £6,495 for Lecturer (A); £6,000 to £6,735 (bar) to £7,716 for Senior Lecturer (A), with placement according to experience.

### Lothian Regional Council

#### NAPIER COLLEGE OF COMMERCE AND TECHNOLOGY DEPARTMENT OF MANAGEMENT SENIOR LECTURER (A) In Systems Analysis/Operational Research

(Ref 3MA/3/5)

This post involves lecturing up to and including degree level.

#### DEPARTMENT OF INDUSTRIAL ENGINEERING LECTURER (A) In Industrial Engineering

(Ref 3IE/4/8)

This post involves lecturing up to degree level.

#### DEPARTMENT OF INDUSTRIAL STUDIES AND SOCIAL STUDIES LECTURER (A) In Sociology

(Ref 3IS/4/2)

This post involves lecturing up to and including degree level. An interest in industrial sociology would be an advantage.

#### LECTURER (A) In Economics

(Ref 3IS/4/3)

This post involves lecturing up to and including degree level. An interest in labour economics would be an advantage.

Applicants should possess an honours degree or equivalent professional qualifications and preferably have had industrial research or teaching experience. Salaries which include threshold within the range, with placement according to experience.

**SENIOR LECTURER (A)** £6,000-£6,735 (bar) - £7,716  
**LECTURER (A)** £3,216-£6,012 (bar) - £6,495

Further particulars and application forms from the Academic Registrar (T), Napier College of Commerce and Technology, Colinton Road, Edinburgh, EH10 5DT, to whom they should be returned within 10 days of this advertisement quoting reference nos.

### Courses

## The Polytechnic of North London

### INTERPERSONAL Group and Counselling Skills

for teachers, administrators, social workers, industrial trainers, trade unionists.

### Introductory and Diploma Courses 1975/76

Enrolment, 8.30 p.m. Wednesday, October 1, 1975.

John Southgate,  
Head of Applied Behavioural Science Division,  
The Polytechnic of North London,  
129 Camden High Street,  
LONDON, N.W.1.



### City of Birmingham Polytechnic

#### Department of Economics and Social Science

A SOCIOLOGY DEGREE that is relevant to the B.A. SOCIOLOGY HONOURS DEGREE is a 4-year sandwich course with options in Social research, Community work, Urban studies.

Following a Foundation Part I course in sociology, economics, social history, social psychology and methodology, students choose one of the three options. The third year is spent in a placement related to the option chosen.

For full information write to P. Tatley, Admissions Tutor, Department of Economics and Social Science, Commerce Centre, City of Birmingham Polytechnic, Gosta Green, Birmingham B4 7HA or apply to:

Admissions Section (ES), City of Birmingham Polytechnic, Corporation Street, Birmingham B4 7DX. Telephone: 021-358 5857, Ext. 239.

## CITY OF LONDON POLYTECHNIC

Sir John Case School of Science and Technology

Part-time MSc Courses

are available in Chemical Spectroscopy, Corrosion Science and Engineering, Materials Selection, Mathematics, Neurophysiological Basis of Behaviour, Optical and Dielectric Polymer Science, Physical Research Techniques, Solid State Physics/Thin Film Physics (Modular Control).

Qualifying courses and examinations are available for spots of these courses.

Full-time courses with SRC student status are available.

Full details and application forms are available from:

The Academic Registrar, Administrative Headquarters, 117-119, Roudsitch, London EC3A 7DU. Telephone: 01-253 0030.

For a wide  
range of good  
appointment  
opportunities  
occurring in your  
subject you need  
to follow the  
**THE S**  
week by week

### Administration

#### THE CITY UNIVERSITY ADMINISTRATIVE ASSISTANT

Applications are invited for the post of Administrative Assistant to the Academic Registrar, who is currently vacant. The post is full-time, permanent, and offers a salary in the range £3,216 to £6,812 (bar) to £6,495 for Lecturer (A); £6,000 to £6,735 (bar) to £7,716 for Senior Lecturer (A), with placement according to experience.

Further particulars and application forms from the Academic Registrar (T), Napier College of Commerce and Technology, Colinton Road, Edinburgh, EH10 5DT, to whom they should be returned within 10 days of this advertisement quoting reference nos.

### Holidays and Accommodation

Students are invited to apply for accommodation in the City of London Polytechnic, which is situated in the heart of the city. The accommodation is modern and comfortable, and is available for students on a long-term basis. The City of London Polytechnic is a member of the University of London, and is a member of the Association of Universities and Colleges in the City of London.

Further particulars and application forms from the Academic Registrar (T), Napier College of Commerce and Technology, Colinton Road, Edinburgh, EH10 5DT, to whom they should be returned within 10 days of this advertisement quoting reference nos.